

CLINICAL MEDICINE AND SURGERY



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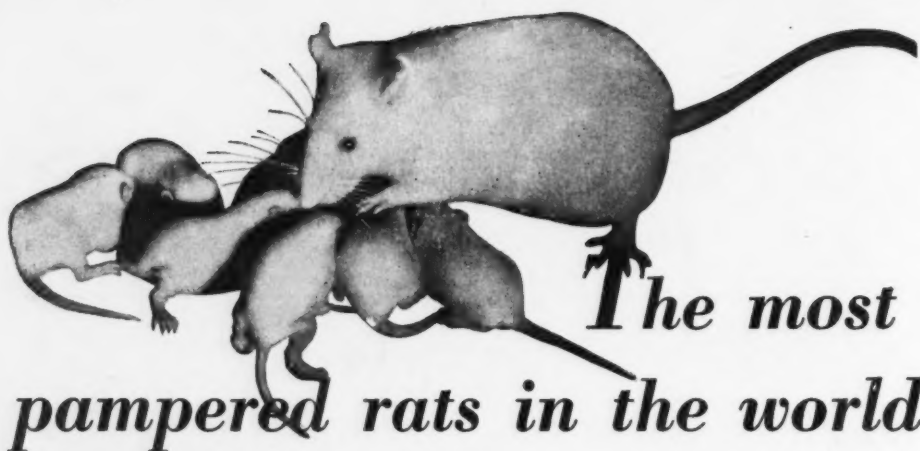
February, 1935

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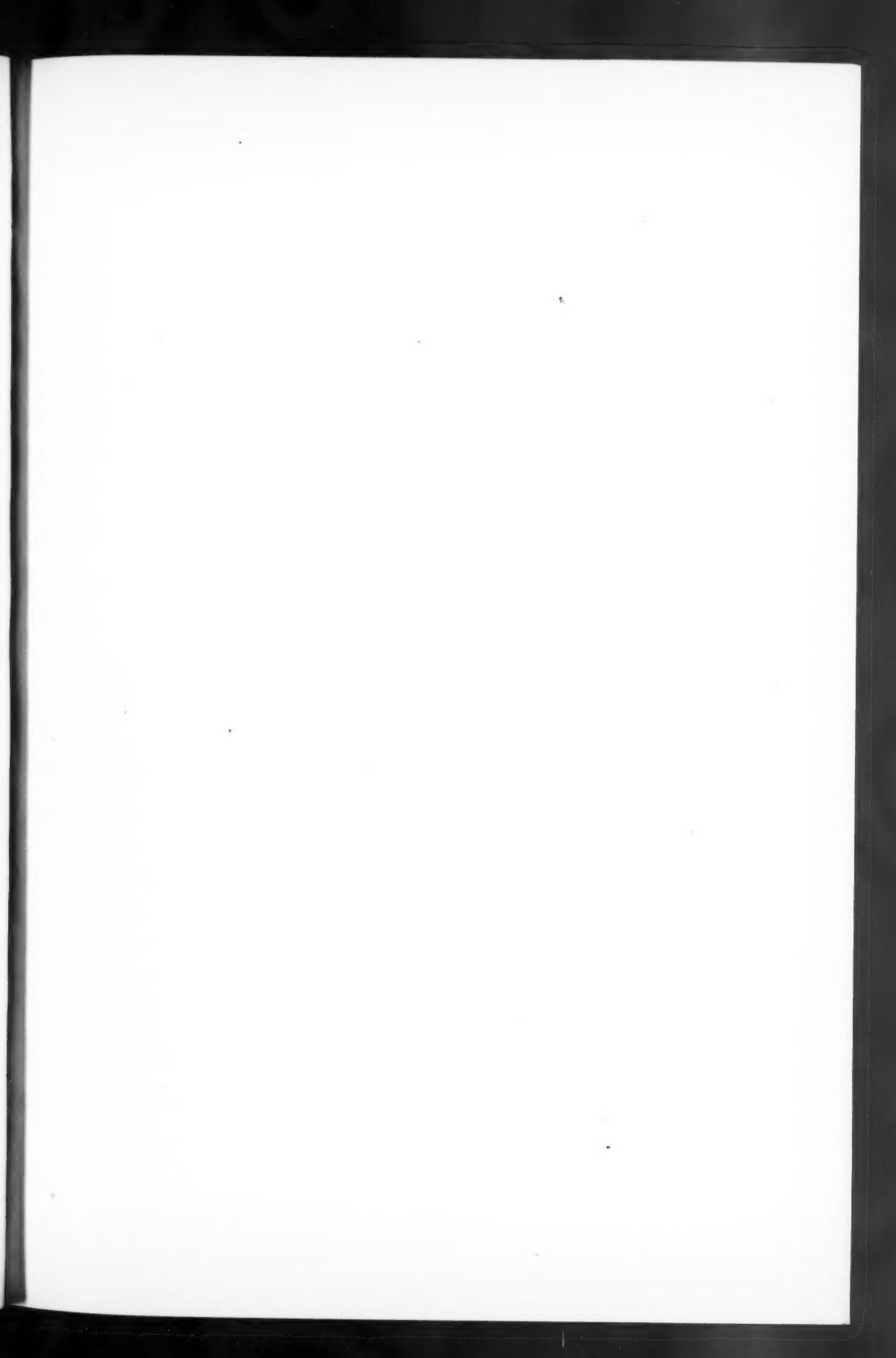
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JOSIAH GREGG, M.D.

CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.

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NO. 2

EDITORIAL

Dr. Josiah Gregg Historian of the Santa Fé Trail

It is an interesting fact, and not at all generally known, that, of the men who made the most solid and enduring contributions to the early history of the United States, two were physicians. One of these, Dr. John Wesley Monette (see *CLIN. MED. & SURG.*, April, 1933, page 199), owed a good deal of his fame and most of his fortune to the practice of his profession, though he is best known for his "History of the Mississippi Valley"; while the other, Dr. Josiah Gregg, received his medical degree late in life, practiced very little, and is now remembered almost entirely on account of his unique work "Commerce of the Prairies."

Josiah Gregg, a member of the sixth generation from the Scotch-Irish Quaker, William Gregg, who settled in Pennsylvania about 1682, and the son of Harmon Gregg (a wheelwright turned farmer) and his Pennsylvania German wife, Susannah Schmelzer, was born, during his family's various peripatations, in Overton County, Tennessee, July 19, 1806; went with his parents to Illinois, in 1809, and from there to Howard County, Missouri, in 1812; and finally settled down (for a while) in the vicinity of what is now Independence, Missouri, in 1825. The story-and-a-half log house, in which he spent his later adolescence, was still standing as late as 1906.

Josiah was a physically frail and delicate boy, who did as much as he could of the terribly arduous work of a frontier farmer

(restrained by his mother, when his enthusiasm exceeded his strength) and was sustained with "bitters"—black snakeroot, sarsaparilla, dock root, dogwood, wild cherry bark and black pine gum, steeped in whisky.

He had the ordinary "common school" education of his day, supplemented by omnivorous reading of everything he could lay hands upon, when his weakness made it necessary for him to stay in the house. These "supplements" made him a well educated man. He had a good working knowledge of Latin, French and Italian and the rudiments of German, and spoke and read Spanish fluently. He taught school for a year and studied surveying, law and the natural sciences—botany, zoology, etc. His pioneer life gave him sturdy self-reliance and a skill with his hands which enabled him to make most of his surveying instruments and even, on one occasion, a village clock, for the town of Santa Fé (then a Mexican pueblo), for which he was paid \$1,000.

The historian, Connelley, relates that he was sent to Philadelphia to study medicine (school unknown) in his early twenties; but, after careful search, John T. Lee, who has studied the matter carefully, has been unable to find any record of such studies until 1845 and '46, when, in the latter year, he was given the degree of Doctor of Medicine by the medical department of the University of Louisville. It seems certain, however, that Josiah had

leanings in that direction in his youth; picked up a good deal of practical medical lore during his wide travels; and actually practiced his profession for a time in Mexico (Connelley credits him with two or three years of practice in Jackson County, Missouri).

In the winter of 1830 and '31, young Gregg's health declined to the point where it was generally conceded that he was going into "consumption," and as his father was familiar with the Santa Fé trade, it was decided that Josiah would be benefited by a trip across the prairies. Accordingly he organized a caravan, which started in May, 1831.

The story of the next ten or fifteen years of his life, including the records of eight trips across the prairies and nearly nine years' residence in northern Mexico, and embodying the observations, along a wide variety of lines, of an astute and observing man, is contained in that western classic and permanent source of pioneer history, "Commerce of the Prairies," published in 1844. That Gregg furnished all the material for that book and that a good deal of it is in his own language, is beyond doubt, so he is its real author, although there is evidence to show that it was edited and prepared for publication by a young New York lawyer named John Bigelow, who later was a partner of William Cullen Bryant in the *Evening Post*. Gregg's map of the territory covered (included in his book) was his own work and is said, by experts, to be the best of its time.

In 1846, at the beginning of the Mexican War and after he had received his medical degree, Dr. Gregg was persuaded to join the staff of General Wool, as a confidential government agent, interpreter, etc. During this time it seems probable that he was also an unofficial "war correspondent" of several newspapers. He did not care for the work, however, and spent most of his time in Mexico in studying the geography and geology, the flora and fauna, of that country and in writing highly informative letters to scientific friends in the United States. He was a great letter writer, and his epistles show an active and well filled mind.

It is not certain whether or not he returned to Missouri after the war, or whether he took ship from one of the western Mexican ports, but in 1849, when the gold rush was on, he turned up in San Francisco, borrowed some money and set out to explore the Trinity River country, about 400 miles north of that city. From there he and his party traveled west-

ward in an attempt to locate a suitable port for establishing a supply depot for the extensive placer mines in the vicinity, and in December, 1849, they discovered Humboldt Bay, but were unable to reap the reward of their terrible labors and hardships.

From the first, the expedition had had insufficient provisions. Dissentions developed in the little band and it separated into two sections, Gregg and three others struggling south along the coast, in an effort to reach San Francisco. But Dr. Gregg, always frail (except in mind and will), was unable to endure the privations and herculean toil of such a journey, and on February 25, 1850, somewhere in what is now Lake County, California, he fell from his horse unconscious and died from hardship, exposure and starvation—principally the last-named. No one now knows just where his bones rest.

This remarkable man and physician, who never married and whose strenuous life had made him prematurely old, was modest to the point of shyness, but of indomitable purpose and inflexible will. His brother, John Gregg, wrote of him, in December, 1850, that he was always a man of scrupulous integrity; never used any coarse or profane language; was temperate in all his habits; and made friends slowly, but once made, kept them always.

It is fitting, in these days when many of us feel that we are having rather hard times, to look back upon this physician of four generations ago and compare our opportunities and accomplishments with his. After such a comparison, most of us would be ashamed to set forth our deeds in detail or to bewail the relative dearth of our rewards.

It is the exceptional man who goes through life a bachelor and wins all that his talents warrant.—EMMET KEATING.

Who Pays for Health Insurance?

WHEN any man of foresight and judgment enters into any transaction, he makes it a point to find out just what obligations he is assuming and who is to bear the various expenses which may be involved. This being obviously the case, it would appear that those who are advocating compulsory health insurance, and also those who are permitting such proposals to be promulgated unchallenged, cannot be classified as persons of foresight and judgment.

A plan which is being advanced in a number of quarters would require every employer of three or more persons to set aside

for this purpose, $1\frac{1}{2}$ percent of his payroll; the deduction of 3 percent of each employee's pay; and a payment by the State (which means every one of us who pays taxes) of $1\frac{1}{2}$ percent of the amount of all the payrolls involved in the transaction. Even the employees of the various agencies of the Government, who are receiving \$3,000 or less a year (and these number hundreds of thousands), would be included.

Other proposals being made include the morale-destroying feature of cash benefits to be paid to those who are ill, thus involving two kinds of insurance and two kinds of sickness: the *strictly medical* and the *legal*. By such a plan many disastrous effects upon the patient, the physician and the whole social fabric would be engendered.

In order to reach a wise decision on a matter like this, and also upon such a plan as the 30-hour week, which is being widely agitated, one must think a good deal below the surface. Many producers of commodities needed for comfortable and healthful living are now operating upon a margin so narrow that even the added $1\frac{1}{2}$ percent required to take care of the health insurance, to say nothing of the tremendous expense of a 25-percent reduction in working hours with no decrease in unit wages, would necessitate a sharp increase in the prices of the commodities thus affected, in order to permit their producers to continue to function. This increase in prices would more than offset any apparent increase in hourly wages and decrease in the cost of medical care, so that the final result would be a definite lowering of the living standards of the persons involved. The effects of the 30-hour week are discussed in a brochure recently issued by the Brookings Institution, Washington, D. C., which may be obtained through the National Publishers' Association, 232 Madison Ave., New York City.

The effect upon the medical profession of the establishment of a health insurance program, would be an increase in the physician's taxes; an increase in the prices of many, if not all, of the commodities he would have to purchase for professional and personal use; a decrease in the purchasing power of any income he might derive from salaries and investments; the lay and political domination of his relationship with his patients and with institutions for their care; and a reduction in the net value of the income of all physicians above the lowest levels of professional and social efficiency.

There are still many physicians who fail

to understand that compulsory health insurance means, inevitably, the creation of a political bureaucracy (which means more jobs for venal politicians and more taxes to pay them, because 50 percent of the money will go for non-medical purposes), within our various state governments, which will effectually dominate medical practice among those of limited means and will benefit only those medical men of the most mediocre attainments.

Legislation to this end will be introduced in most state legislatures within the current year, and it behooves every intelligent and able physician in the country to look into these matters carefully; to keep a close watch upon what is going on in his State Capital; and to inform his representatives, in the State Assemblies and in the Congress, how he feels and thinks about the measures proposed. Only so can the welfare of the public (as regards medical matters) and of the profession be conserved, by registering the consensus of its worthy members.

Services that cost nothing are valued at that.—
The Neuro Therapist.

"Common Colds"

THIS is the season of the year when "common colds"—or, better, attacks of coryza—are especially rampant; and while all physicians are supposed to know how to treat them, it may not be amiss to review the subject briefly, just as a mental refresher.

In the first place, it is well to remember that the symptoms of coryza may be simulated by chronic ethmoiditis, the nasal manifestations of allergy, the nasal turgescence resulting from prolonged or repeated sexual stimulation without relief, and probably by several other conditions resulting from chronic or extranasal disorders. These should be remembered and looked for in any case of coryza that does not respond promptly to treatment. Even in cases where chronic nasal abnormalities are not the direct cause of the symptoms, they are often a predisposing cause and should be corrected at an appropriate time.

"Colds" may be prevented or minimized (though not cured, when already present) by prophylactic vaccination with "cold vaccines," in the late summer or early autumn; by the regular taking of from one to three capsules of Haliver oil or "A.B.D." capsules daily, during the winter months; by general body irradiation with ultraviolet rays once

or twice a week; and by all those hygienic measures which tend to keep the general resistance high—regulation of digestion and elimination, exercise, cold or cool baths, plenty of fresh, moist air, and the like. It seems probable that the spread of colds could be minimized by having the patient use, during the attack, the tissue-paper handkerchiefs which are now available, and destroy them promptly by fire.

Many so-called "colds" are indistinguishable from mild or incipient influenza, and it is sound practice to consider every case of coryza as potential influenza, and isolate the patient for a day or two, to be on the safe side.

True coryza consists of two stages: congestive and bacterial or inflammatory. The congestion may be due to exposure with chilling; to digestive disorders; to constipation; to emotional upsets; and probably to several other causes. If not checked in this stage, the bacterial or infectious stage follows in a day or two.

At the onset of the congestive stage, prompt treatment will generally abort the attack. This should consist of the injection of one of the non-specific proteins—nuclein solution, Edwenil, Activin, Omnadin or another; the administration of Dilaudid or codeine and papaverine, as outlined by Diehl in the February, 1934, *CLIN. MED. & SURG.* (page 98); putting the patient to bed (if this is at all practicable), with a hot-water bottle and a large, hot lemonade, with or without whisky. A purgative is generally in order, also, and such drugs as Calcidin (good-sized doses), Armervenol, acetyl-salicylic acid and Novadalin. Strong alkalinization, with

sodium bicarbonate or the citrates, has also given good results in the hands of many. Small and repeated doses of atropine (to effect) will generally check the profuse, watery secretion which is so annoying in some cases.

It must be remembered that the coating of mucus, which is normally present over the membranes of the nose, is nature's protective

covering, and should not be completely removed, even in disease. Moreover, the action of the cilia on these membranes is a potent factor in cure and should not be interfered with by the use of paralyzants like cocaine. One may, however, wash out excess secretions every three or four hours, using warm physiologic salt solution, applied with a dropper (not with an atomizer) and, if the membranes are so turgid as to interfere with nasal respiration, instill (also with a dropper) some mild decongestant and antiseptic, like Metaphedrin in oil, Neo-Efemist or Hille's colloidal zinc with ephedrin.

In general, it should be borne in mind that coryza is, primarily, a constitutional, rather than a local disease, and that, therefore, its constitutional treatment, including rest in bed for a day or two, is most important, the local measures being merely palliative and intended to make the patient more comfortable.

Every physician should be constantly engaged in educating his patients regarding the potential seriousness of the "common cold," for only in this way can he secure adequate cooperation in the treatment of this ubiquitous malady.

NEXT MONTH

Dr. Ralph St. John Perry, of Minneapolis, who has given us several good articles in the past, will say truly practical things about the care of old people (geriatrics), about which most of us know too little.

Dr. Edmund Lissack, of Concordia, Mo., will review 500 obstetric cases in a helpful manner.

Dr. John R. Neal, the exceptionally capable leader of the Illinois Medical Legislation Committee, will present the soundest, sanest view of the Health Insurance question which we have seen.

COMING SOON

"Gelatin in Medicine," by Dr. Walton Forest Dutton, Amarillo, Tex.

"Cutaneous Complications of Gonorrhea," by Dr. Winfield Scott Pugh, of New York City.

LEADING ARTICLES

Urology for the General Clinician

By Edward S. Pomeroy, A.B., M.D., Salt Lake City, Utah

THE surgeon usually tries to "cure" everything with his scalpel; the endocrinologist's main weapon against disease is the ductless gland extract; the internist usually assumes that most diseases are self-limited and depends largely on the natural defense forces of the body; while the urologist, who must deal with "vile venereal afflictions," has always sought the aid of potent germicides.

Our best germicides have been found to be the salts of metals, principally mercury, silver, bismuth, arsenic and a few others, as well as various coal-tar products, consisting of the phenols, the cresols and the dyes. Most of these are highly toxic and irritating to the human tissues, unless modified by various chemical combinations, making them suitable for use.

Silver is historically monumental in the treatment of gonorrhea, just as mercury is in the treatment of syphilis. Phenols and cresols and dye products have been used more or less effectively for ages. However, these have all displayed certain irritating and toxic properties which have seriously handicapped their value. Ehrlich was probably the first to tear apart certain coal-tar products chemically and rebuild them in the laboratory in a manner calculated to minimize their toxic and irritating properties and to retain or enhance their germicidal values. Thus he combined arsenic with the benzene radical to give us Salvarsan, and later the di-oxy-diamino-arseno-benzol.

Chemotherapy

While I should not wish to be accused of being an extremist, I feel that many of us in the past have failed to grasp the advantages offered by chemotherapy. Since Ehrlich, many of the best brains in the chemical world have repeatedly produced for us many synthetic products with splendid clinical values. England produced the acriflavine dye (di-amino-methyl-acridinum-chloride) and its milder derivative, Rivanol (ethyloxy-diamino-acridinum-lactate). Johns Hopkins University developed a combination of mercury with a dye—di-brom-oxy-mercuri-fluorescein, or Mercurochrome. Raiziss and his group at the Dermatological Research Laboratories, in Philadelphia, for many years have been arduously at work producing many synthetics,

the best of which is probably 4-nitro-anhydro-hydroxy-mercuri-ortho-cresol, or Metaphen. This preparation combines the potent metal mercury with the best of the coal-tar germicides, cresol, in a manner to render them both innocuous to the human system. The Lilly company offers us sodium-ethyl-mercuri-thio-salicylate, which they call Merthiolate; Dunning and Fairholt built up mono-hydroxy-mercuri-di-iodo-resorcin-sulphonphthalein, or Merodicein; comes from the Table Rock laboratories hexamethyl-triamin-triphenyl-carbinol-chloride-bismuth, named by them Bismuth-violet; and there is gentian-violet, or the penta and hexa - methyl - pararosaniline - hydrochlorides, and many new ones appearing from time to time.

In order to evaluate these new chemical combinations, their bactericidal values must be and are proved in the bacteriologic laboratory; their degree of toxicity must be and is proved in the animal (pharmacologic) laboratory; but, in the final analysis, their usefulness must find its true place by the work and studies of the practicing clinician.

Careful discrimination in the proper use of drugs is rewarded richly with desirable clinical results. A drug carelessly used and thereby producing poor or manifestly evil results and being hastily condemned, can often be used to great advantage in the hands of more careful and discriminating physicians. Medicine, while becoming more and more a science, is still, in this respect, an art.

We must not forget that different tissues react in different ways to chemicals; that time and frequency of administration are important factors in drug employment; that the degree of inflammation present has a bearing; that the concentration of a drug is vital; and that there are many other factors which should govern the technic of application suitable to each individual drug, as well as each individual patient. Even drugs that are proved to be highly useful have their limitations, and we should not expect too much of any single drug.

Concerning the office use of drugs, I think it is not good practice to employ any of the patented trade names on labels. As scientific men we should use scientific labels, and accordingly, in my office, Neo-silvol is, both



Fig. 1

on my stock bottle (Fig. 1) and on my dispensing prescriptions, colloidal argenti-iodidum; Mercurochrome is dibrom-oxy-mercuri-fluorescein; Metaphen is 4-nitro-anhydro-hydroxy-mercuri-ortho-cresol; Argyrol is Barnes' argenti-proteinate mite; etc. If these drugs are deserving of scientific use, they are also deserving of scientific nomenclature, which on prescriptions, is also discouraging to the hit or miss, indiscriminate home use by the layman.

Some Commoner Drugs and Their Uses

Silver Nitrate: No urologist seems to be able to get along without silver nitrate. But since it is quite irritating its use should be very conservative. No drug can, apparently, displace it as a local instillation, through a ureteral catheter, in kidney infections. In the urethra, if used at all, its use should usually be restricted to the later, indolent stages of the infection. I seldom use it in the urethra or bladder.

Barnes' argenti-proteinate mite, or Argyrol: According to a questionnaire sent out by Dr. A. Wolbarst,¹ this mild silver proteinate is the most popular form of silver among the foremost American urologists. It is non-irritating, safe for anyone to use, and is efficient in controlling most infections.

Protargol and the strong silver compounds are distinctly irritating, and I do not recommend their use.

Neo-silvol: Colloidal silver iodide is mild because silver iodide is a very innocuous and non-irritating form of silver. Although I do not believe that it gives as good clinical results as Argyrol, it finds a unique place of usefulness in bladder instillations in patients with bladder-neck obstructions, with their residual urine, because it is not too irritating to be so retained for long periods.

Acriflavine: This is a good drug, but it should be used with care and discrimination. It is irritating and should be limited in use, both as to concentration and frequency of application.

Rivanol: Ethyloxy-diamino-acridinum-lactate, with dextrose, is not irritating and is an

efficient drug. Many urologists use Acriflavine for office applications, with Rivanol for concurrent home injection. Rivanol is said by Kolmer² to be especially efficacious in gram-negative infections; therefore of particular value in gonorrhea, colon bacillus infections, etc.

Mercurochrome: Di-brom-oxy-mercuri-fluorescein is, in my opinion, the most potent and effective drug in urologic practice that we possess today. It is not irritating, if used but once a day in from $\frac{1}{4}$ to 1 percent solutions, and for no longer than 3 successive days. It is not, however, self-sufficient, but must usually be followed up with some accompanying milder drug, such as Argyrol, Rivanol or Metaphen. Mercurochrome alone has cleared up many of my simple cystitis cases in from 3 to 5 treatments; treatments on alternate days, following the third day.

Metaphen: For anterior urethral injections I find this to be better than Argyrol or Rivanol or any other drug, as a corollary or accompanying drug for mercurochrome.³ I use it as a home injection every three hours in 1:5,000 strength. While it is not irritating in the anterior urethra, I find that it is irritating in the posterior urethra and never employ it there.

Gentian Violet: This pararosaniline dye is reported by Kolmer² to be effective especially upon gram-positive organisms, and therefore should be useful in treating tuberculosis of the bladder and urethra, as well as in staphylococcus and streptococcus infections. Inasmuch as *B. coli* is also usually present in these infections, I mix equal parts of gentian violet and Rivanol, which I use occasionally.

Potassium permanganate: As Dr. Wolbarst finds in his summary of replies to his questionnaire sent to American Urologists,¹ "Hydrostatic irrigations with potassium permanganate and syringe injections of the newer silver salts . . . are two distinct methods of treatment which have survived the test of time."

I use potassium permanganate as a deep irrigation in the strength of 1:8,000 to finish up practically all urethral infections.

Meroxyl, or 2-4-di-hydroxy-3-5-di-(hydroxy-mercuri)-benzo-phenone-2-sulphonic acid, is used by Hugh Young,⁴ but it is somewhat irritating and recognition of this property should govern its use.

Merthiolate and **Bismuth-violet** are good germicides and apparently are non-irritating. Their exact values and limitations I am still seeking by their careful employment.

The Use and Abuse of Sounds

Sounds are used primarily for the gradual dilatation of strictures. The rule for the management of strictures is to employ dilatation in all cases that will respond favorably

to it. Those which will not respond favorably, if located in the pendulous urethra, should be cut by internal urethrotomy; if located in or back of the bulbo-membraneous region, perineal urethrotomy is the proper route. Secondly, sounds can be used, first, to dilate the mouths of lacunæ and urethral glands; second, to stimulate an indolent, chronically infected urethra; third, to determine the cure of gonorrhea by the provocative method; and fourth, to diagnose the presence of obstructions, such as strictures, etc.

Anyone contemplating the treatment of strictures should have the proper diagnostic equipment. The *bougie à boule* should always precede the sound. These, properly used, can give very definite information, for they indicate the exact size, both as to diameter and length or extent, the location and, if multiple, the exact number.

Great care should be used, not only to diagnose those cases having strictures accurately, but also we should condemn the indiscriminate use of urethral instruments in cases which are likely to be injured by such trauma. No case, stricture or otherwise, should be instrumented in the presence of active infection. The infection should always first be reduced as much as possible. Always precede sounds with a course of irrigations and instillations; and first use the *bougie à boule*.

Points in the technic of using sounds are: First, wash out the urethra with a germicide; second, instill some procaine; and third, use plenty of good lubrication. There is a golden rule of urology; "Patience, perseverance and sweet oil," to which might be added, "always gentleness."

Right-handed operators had better stand at the patient's left. Grasping the penis with the left hand, give it good traction, to put the urethra on a stretch so that the canal is smooth and so that the tip of the sound does not cause the urethra to wrinkle. This is very important. Then, following the roof of the urethra with the tip of the sound, one will not usually get into difficulty. Allow the curve of the instrument to follow the anatomy of the urethra and to adapt itself naturally to the curve of the deep urethra. Do not force a sound. If it will not pass a definite obstruction, choose a smaller one. If one follows these suggestions, one will not get into trouble.

In stricture cases, allow the sound to remain in place for ten or twenty minutes. This produces a local reaction which is reparative, and is distinctly more beneficial than the mere passage and withdrawal of the instrument. Occasional sounding is only palliative. Strictures must have a good course of dilating, which must be followed up for about a year in order to produce any lasting benefit. Also, potassium permanganate irriga-

tions should be used daily, along with the dilating.

After removing the sound, a deep instillation of 1-percent Mercurochrome will usually prevent urethral chill.

Finally, the man with stricture practically always has also chronic infections of the prostate and seminal vesicles, which demand attention and which are almost invariably overlooked.

Massage of the Prostate and Seminal Vesicles

Most textbooks on urology, aside from Pelouze's,⁵ contain very little information on the technic of prostatic massage. Aside from my paper in 1926,⁶ I have seen very little in the literature about stripping the seminal vesicles.

Personal experience during the past twelve years, in massaging and stripping approximately 18,000 times, has emphasized certain principles which I shall mention briefly.

Some common mistakes are: (1) Massaging too early after acute infection; (2) omission of daily mild irrigations, along with the massage treatment; (3) the fallacy that the seminal vesicles are difficult to reach; (4) the almost universal lack of recognition, among physicians, as to the common occurrence of low-grade infections in the seminal vesicles and, therefore, the failure to recognize the importance of this as a site of focal infection; (5) the failure, by the average physician, to dislodge coagulated or sealed-in pus, even when he does massage. The pus often being massive, or the ejaculatory ducts very small, it is often difficult to demonstrate pus when it is there; (6) the lack of knowing how to massage.

I have found that it is best to irrigate the deep urethra with potassium permanganate 1:8,000 daily until all acute symptoms have well subsided, before beginning massages. This loosens the pus and makes the massage more effective. Potassium permanganate, used hot, reduces the inflammation and swelling. It is to some degree germicidal, from the heat, the metallic and the oxidizing effects. By the oxidation of dead organic matter, plugs of mucus, pus and dead epithelium are loosened and drainage is established. These irrigations should be continued along with the massages. The occurrence of epididymitis, in my practice, has been kept below 1 percent by observing these rules and following these principles.

The first massage must be light. It should be nothing more than a careful exploration, to outline the contours, size, shape and consistency of the prostate and seminal vesicles. Rather alarming syncope often follows the first massage if extreme care is not used.⁶

The frequency of massages should not be more than three a week, nor less than one. Taper off the frequency as the patient improves. Alternating rest periods, in my ex-

perience, are not so good; in fact I feel that they are distinctly the reverse, as they permit drainage, which is so often difficult to establish, to become blocked again. Keeping at it consistently and persistently is what gets results.

Technic of Massage

1.—*The full bladder:* Either having the patient retain his urine, or by filling the bladder full of potassium permanganate solution preliminary to massage, and retaining it, effects counter-pressure and pushes the structures well down into the pelvis. It also supplies a ready medium to wash out the effects of the massage, which can be collected in a sediment glass and observed.

2.—*Position:* The patient is laid across the examining table at right angles to its length; his legs well apart; toes turned in and touching the floor. It is important that his weight is on his lower abdomen on the table, and not on his toes on the floor. This increases the abdominal pressure and further anchors the structures for the operator.

3.—*Relaxation:* It is important to obtain complete relaxation by the patient, especially of the rectal and pelvic muscles. If this cannot be attained by instructions, or if the patient is nervous or sensitive, a 2-grain Butyn suppository is advantageous.⁶

4.—*Bearing down:* During the massage, if the patient will bear down as though to defecate, it aids in counter-pressure and facilitates reaching high up onto the seminal vesicles.

5.—*Lubrication:* The rubber finger-cot or glove must be well lubricated. K-Y jelly, or a preparation of mucilage of tragacanth, is very slippery. Medicated oils or ointments are indicated in tender or abraded rectums.

6.—*The maneuver:* Not with the tip of the finger, which causes pain, but with the flat of the right index finger, placed over as large an area as possible, beginning high up and to the left as far as one can go, gentle but steady and firm pressure is exerted, gradually bring-

ing it downward over the seminal vesicle and then along the left lobe of the prostate, maintaining a continuous pressure for several seconds. The direction need be only down; not toward the midline.⁵ Repeat the process two or three times, as indicated by the tolerance of the patient. Then, after a rest period, repeat the process on the right side. I have found that it is awkward to do this on the right side properly with one's right index finger, so I have recently employed the left index finger on the patient's right vesicle, with better effect. Many operators fail to reach the seminal vesicles because they do not push their finger as high as it can go.

7.—*Degree of pressure:* There is a wide divergence of opinion relative to the amount of pressure permissible or necessary in this maneuver. The value of the massage is after all, in the evacuation of the pus and in establishing and maintaining drainage. This cannot be accomplished unless firm and steady pressure is exerted, sufficient to push the contents through the ducts and into the urethra. Excessive force is not needed if the operator exerts steady pressure and is not in too great a hurry. The technic should aim to be gentle, but steady, slow and firm. In twelve years I have seen no evil effects from rather vigorous but careful massagings, and the beneficial effects have been extremely gratifying.

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Judge Bldg.

THE PHYSICIAN'S INCOME AND HIS CHARITY WORK

The public must be taught to appreciate the fact that physicians, as a class, are not wealthy; that it costs the doctor as much to live as it does any one else; that expenses in the practice of medicine are high; that his credit is no better than that of his patients, if it is as good; that the net incomes of physicians average, in rural districts, about \$3,000; in urban, about \$4,000; that the 150,000 physicians of the United States are donating at least \$365,000,000 worth of services annually to the 500,000 persons cared for daily who pay nothing for such services; that these 150,000 physicians have net annual incomes totaling between \$450,000,000 and \$600,000,000 derived from those able to pay for medical services. What other group of 150,000 in the population of the United States donates in service or money or goods a corresponding amount?—Dr. N. S. DAVIS, in *Ill. M. J.*, July, 1931.

Gastro-Intestinal Allergy*

By Ernest Risley Eaton, M.D., New York City

THE subject of this paper is a very wide one, but I purpose to limit my remarks to a consideration of allergy due to the introduction of offending foods, manifested by gastro-intestinal symptoms. Several persons may partake of the same food, to which each is hypersensitive, and shortly after ingestion one may develop urticaria, a second acute vasomotor rhinitis, a third violent dyspnea and the fourth allergy of the gastro-intestine, resembling food poisoning.

That gastro-intestinal allergy may be caused by the same extrinsic factor as asthma, hay fever and urticaria is illustrated in the patient who, after the fourth or fifth therapeutic injection of pollen extract, has a severe constitutional reaction, relieved by epinephrin, in which occur acute, agonizing abdominal pain, with vomiting, diarrhea, collapse and (infrequently) death. Furthermore, there are many individuals who, after eating generously of a food to which they are hypersensitive, develop a vasomotor rhinitis of a few hours' duration, marked by sneezing and irritation of the mucous membrane of the conjunctivae and nose, as in hay fever.

The gastro-intestinal tract in man is a highly complex and beautifully balanced piece of mechanism, in which complete coordination between one muscle segment and another is brought about by an intricate system of association nerve fibers, controlling stimuli, with their subsequent muscular contractions. Independent of the rest of the organism, which is possessed of such highly developed nerve control, the gastro-intestine autonomously functions, by maintaining within itself the mechanism of peristalsis. This offers a simple explanation of how it is possible for the chemical nature of the contents of the intestine to affect peristalsis and also how, in a sensitized individual, the smooth muscle is stimulated into a strange and violent spasm by proteins, protein split-products, or non-proteins meeting their specific antibodies.

The exact mechanism producing allergy is not fully understood, but it is thought by many to be a reciprocal action between antigen and antibody substance in the tissue cell and the subsequent formation of toxic molecules, which probably are histamine or histamine-like bodies. In gastro-intestinal allergy the formation of the antigen is said to occur in the digestion of certain proteins, with the formation of histamine-like bodies instead of amino acids.

There are many theories. I believe that more consideration should be paid to blood chemistry studies, for the writer and his associate, Love, in studies at the United States Naval Hospital, New York, found high normal blood uric acid and uricacidemia present in the majority of a series of patients studied manifesting asthma, hay fever and urticaria, and upon this basis a comparison was made with chronic arthritis. Further, we believe that, if satisfactory studies could be made of diseases of allergy at the seat of the local reaction, as were made by us from synovia in chronic arthritis, cumulations of uric acid would be found. Localized tissue sensitization to uric acid is more than a probable causal factor in the mechanism of allergy of the gastro-intestinal tract. In the treatment with insulin of allergic individuals suffering malnutrition, the best therapeutic results are achieved where there is a high normal uric acid or uricacidemia. In such cases the uric acid appears to be burned readily, with the fat, upon the flame of the carbohydrates.

Obscurity of the clinical picture in gastro-intestinal allergy may be better understood by the well known comparison of the shock tissues of man and laboratory animals. Wherever particularly developed, the non-striated muscle is the seat of shock tissue in animals, and they have but one seat of shock tissue, as the bronchioles in the guinea pig, the pulmonary arterioles in the rabbit and the hepatic veins in the dog. But human beings have several shock tissues as sites of their allergic reactions, and when delayed, one shock tissue is subordinated to another. This subordination of the shock tissue of the gastro-intestine may explain why many individuals manifesting urticaria do not have gastro-intestinal symptoms.

Predisposing Causes

To find and remove the cause in allergy of the gastro-intestine is to effect the cure, and therefore a comprehensive and inclusive history of the patient is essential and of practical importance, for only by this means can necessary information be secured for diagnosis and treatment. The family history may reveal the presence of allergy. Other allergic diseases may be related by the patient in a personal history and aid in the diagnosis. In the history of previous illnesses, allergy is observed to strikingly limit susceptibility to acute infectious diseases. Affected individuals may inherit a predisposition to allergy, or may acquire it early or late in life.

Let us look at the underlying causes, in addition to heredity. The gastro-intestinal tract

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has its beginning at the tip of the nasal passages and its surface is continuous with the naso-pharynx and other important divisions of the upper respiratory tract. Diseases of the teeth, gums, tonsils, nose, throat, sinuses and para-sinuses depress the function of the gut, as do other well recognized conditions, such as pylorospasm, peristaltic stasis or spasticity, inflammation, kinks, loops, hypertrophies, infection, parasites, obstruction, diverticula, pathologic appendices, coloptosis, enlargement and tortuosity of the large intestine, liver inadequacy, cholecystitis, peptic ulcers, mucous colitis, etc. These provide a fitting soil in the predisposed or sensitized individual, for the seed of the disease to grow in, and share with heredity a common underlying cause of gastro-intestinal allergy.

There are many antecedent factors which may contribute to the ability of an individual to become hypersensitive to food and other substances. Digestive disturbances in early childhood may often be accounted for by the insistence of mothers, attributing exceptional virtues to foods such as milk, eggs, bread, potatoes and oatmeal. The children are compelled to partake of these foods, to which, if not already sensitized, they soon become so, and in addition develop early nutritional disorders. A strong dislike for foods is highly suggestive of allergy. The allergic equation is always present, where milk is a feeding factor in children. Milk, when boiled, may often be modified as a sensitizing agent.

The extent to which fecal cumulations in the rectum alone may produce, in otherwise healthy individuals, coated tongue, headache, foul breath and lassitude, is sufficient reason why the clinician should consider the importance of ingested food to which the patient is sensitized and to which, in so catastrophic and strange a manner, he reacts. Diarrhea, which is an attempt of the body itself to eliminate an offending partly digested food, and spastic constipation, which constitutes ninety percent of chronic constipation, may be the result of oft repeated attacks of gastro-intestinal allergy or may be a marked antecedent causal factor in individuals with a capacity for allergic reactions. Spastic constipation is frequently associated with spasm of the colon, most marked at its hepatic flexure, and in gastro-intestinal allergy the upper right quadrant of the abdomen is often a site for localized pain and tenderness.

There may be an intimate relationship between the thyroid, parathyroids and autonomic nervous system, and many allergic individuals suffer hypothyroidism, with inability to properly metabolize and detoxify. A nutritional deficiency may leave the patient with gastro-intestinal allergy a poor risk for either infection or necessary surgery.

Symptoms and Signs

The onset may be sudden or gradual and the attack so sharply defined that the offending food may be immediately determined, so definitely is it related to time and place. The attack may be precipitated by a multiplicity of causes, among which may be enumerated a food or combination of foods, toxins, drugs, alcohol, tobacco and other non-protein compounds. Irritability, particularly while eating, fatigability, over-indulgence in food and accessory food, and careless cooking are contributing factors.

The duration of the symptoms may vary from ten minutes to several hours or may occur every two to three hours and last fifteen to twenty minutes. The symptoms may be localized or general and they often assume such violence as to endanger human life. Often, because the manifestations are so mild, fleeting and transient, the condition subsides unnoticed by the patient or, as sometimes occurs, following a cold, clammy sweat the patient may fall into a deep sleep.

Pain over the supra-orbital region, occipital headache, edema of the eyelids, lips, tongue and mucous membrane of the mouth; canker sores, blurring of vision, fear of pain, pain, nausea, hyperacidity, fullness after eating, abdominal distention, diarrhea or constipation, vomiting, pale and clammy skin, dizziness, exhaustion, sweating, colic, flatulence, heart burn, lowered blood pressure and collapse, are all well known manifestations. The partaking of food, to which the patient is sensitized, followed by incomplete metabolism, may give rise to a foul-smelling stool, with coincident aching pains in muscles, tendons and joints. The blood-cell count more frequently shows lymphocytosis and is typically characterized by eosinophilia.

No treatment is of value without a study of the individual. Perseverance and patience are necessary in successfully seeking and finding the cause. In addition to the history and physical examination, selected laboratory work and roentgen-ray studies are necessary. Food diaries and elimination diets are valuable adjuncts. Skin sensitization tests are an important diagnostic aid, in children and adults, but these tests, with their delayed and negative results, are often at variance with the clinical findings. Negative skin tests for specific foods do not rule out a diagnosis of allergy. Skin sensitization tests of combinations of foods, as well as a single food, are often necessary.

The increasing difficulty of discovering a specific sensitizing agent is generally recognized, and if skin sensitization tests were as authoritative in gastro-intestinal allergy as they are in hay-fever, diagnosis would not be so difficult. Only those who have made many thousands of skin tests know the keen, prac-

tical value of the services of a technician who is capable and experienced. A good technician, trustworthy proteins and wide experience are really what count. Dietitians have been elevated to a high position in medical therapeutics; why should there not be accorded to those who are skin sensitization technicians the same high appreciation and recognition? Only such workers can be relied upon for accuracy and, as their standard in this important field of medicine is raised, the percentage of positive results in allergic patients will be found to increase.

Treatment

In the treatment of allergy of the gastro-intestine, epinephrin (Adrenalin being the proprietary preparation) quickly relieves the acute symptoms and may be safely used, even when arteriosclerosis and hypertension are present. Atropine, by mouth, may follow the use of epinephrin but is less efficacious when used singly. Benzyl-benzoate, in proprietary form, is less satisfactory than epinephrin, but in the early stages is often of value. Opiates block off the brain cells and offer unnecessary opportunity for addiction. Constitutional treatment aims to change the body chemistry. Liquor or glycerinated pancreatin, with a restricted starch diet, sauerkraut juice, buttermilk, the skin of baked potatoes, bicarbonate of soda with lemon juice, in water; sodium cacodylate; iodine with ammonium iodide and liquor potassii arsenitis, have been used successfully in my practice.

It may be observed that, in the pollen season, starchy foods, such as bread, potatoes and cereals, increase hay fever symptoms; and likewise gastro-intestinal allergy follows the ingestion of the profuse mucous secretion from the upper respiratory tract. Both the hay fever and gastro-intestinal allergy are benefited by a restricted starch diet. Rest, exercise and small amounts of food, frequently given, may be a part of a routine and, in cases of malnutrition, as previously intimated, small graded doses of insulin are of striking and dramatic therapeutic value in the relief and cure of local and systemic symptoms.

The following is the schedule of insulin dosage, in units, in routine cases, and is

TABLE No. I.

Day	A.M.	Noon	P.M.	Day	A.M.	Noon	P.M.
1	5	5	5	17	20	20	15
2	5	5	5	18	20	20	15
3	10	5	5	19	20	20	20
4	10	5	5	20	20	20	20
5	10	10	5	21	25	20	20
6	10	10	5	22	25	20	20
7	10	10	10	23	25	25	20
8	10	10	10	24	25	25	20
9	15	10	10	25	25	25	25
10	15	10	10	26	25	25	25
11	15	15	10	27	30	25	25
12	15	15	10	28	30	25	25
13	15	15	15	29	30	30	25
14	15	15	15	30	30	30	25
15	20	15	15	31	30	30	30
16	20	15	15	1	30	30	30

offered because of the need and importance, in this disease, of constitutional treatment, particularly when the specific cause is not determined. The use of insulin, in selected non-diabetic individuals manifesting gastro-intestinal allergy characterized by malnutrition, is of high therapeutic value in relieving symptoms of amylolytic digestion and also the gastro-intestinal allergy. A marked general improvement and gratifying gain in weight generally result.

Insulin is given fifteen to thirty minutes before meals, by the subcutaneous method. In most cases the insulin doses should not exceed 20 units, and need not be given for a longer period of time than 30 days.

A high-calorie diet should be forced. Eggs, nogs, malted milks, etc., between meals, should be prescribed, especially for threatened reactions.

Patients should be instructed as to hypoglycemic reactions, such as dizziness, sweating, hunger, faintness, weakness, "shakes," tremors, headaches, diplopia and coma. Carbohydrates should be ordered at the first sign of any of the preceding symptoms.

The patient is carefully instructed and is given the following well-known general directions for the use of insulin:—

Insulin, if given too long before a meal, causes a lowering of the blood sugar below the normal level. This is to be avoided, as too great a lowering will cause acute symptoms such as weakness, nervousness and sweating. These early manifestations, if not promptly treated, may be followed by drowsiness, stupor and possibly serious results. The early symptoms must be promptly overcome by partaking of some form of available carbohydrate, preferably orange juice, glucose (dextrose) or cane sugar. This restores the blood sugar to normal, usually within a few minutes, and recovery takes place at once.

Insulin, if taken for the present condition, should be administered within fifteen or twenty minutes before food is eaten. An adequate quantity of food must be eaten. If you are careless about the intake of a sufficient quantity of food, good results cannot be secured. Carefully read the directions regarding the sterilization of the needle and syringe. Carry with you a lump of sugar, a bottle of orange juice or chocolate, and promptly consume it if mild signs of insulin shock are present, such as sweating of the forehead, weakness, nervousness, etc.

Summary

1. In a brief summary I wish to emphasize the constitutional treatment of allergy of the gastro-intestine in all cases in which, after earnest search, the cause is not found. That commendable results may be accomplished by systemic treatment is strikingly presented in those non-diabetic individuals with gastro-intestinal allergy, suffering malnutrition, who are treated with insulin. The therapeutic results achieved are markedly successful

where there is a high normal uric acid or uricacidemia.

2. The amylolytic digestion of patients, where insulin is not indicated, is improved by a restricted starch diet, liquor pancreatin and indicated doses of iodine.

3. In my opinion, consideration should be given to the importance of blood uric acid in its relation to allergy of the gastro-intestine, with especial thought to the probability of local cumulations of uric acid.

4. I believe that technicians, working in the specialized field of skin sensitization tests,

should be elevated to a much higher standard than they now occupy. An evaluation of this necessary field of medicine should make allergy of the gastro-intestine a less vague subject.

A great many facts stated in this paper are well known to those who work in the specialized field of allergy and it will be apparent to them that many details have been omitted. However, the facts stated have been carefully chosen and are of sufficient practical interest to justify their re-statement.

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Diagnosis of Colon Stasis and Hypermotility

By Charles J. Drueck, M.D., Chicago, Ill.

COLON dysfunction must be studied with great care in order to give thought to the many conditions in which functional disturbance may simulate organic disease and vice versa.

Fecal stasis or obstruction may develop at one or more places along the intestinal tract, and our endeavor to find the seat of trouble demands a careful history, a complete physical examination and a minute study of the abdomen and pelvis, by inspection, palpation and auscultation of the abdomen, supplemented by proctoscopic inspection of the sigmoid, rectum and anus.

For an accurate diagnosis, the patient should be given a regular diet for several days preceding the time during which the stools are to be examined; this should be free from all irritating substances, should contain sufficient bulk to encourage normal peristalsis, and all laxative drugs and aperients should be withheld during this period. If, under these circumstances, the stools are found to be mixed with mucus and the mucous membrane is found to be congested, one is justified in making a diagnosis of colitis. On physical examination, in a considerable number of cases, tenderness over some portion of the colon can be elicited, and quite frequently a contracted distal colon can be palpated.

Auscultation of the Abdomen

Auscultation of the abdomen should then be carefully carried out, giving especial attention to the pyloric, cecal and descending colon regions. Auscultation of the abdomen, as a routine procedure, is often neglected, except in cases of intestinal obstruction or peritonitis, although its findings are very informative, by determining the rate of peristalsis in the stomach and intestinal tract. This same degree of motility may be determined by the fluoroscope, but at greater cost of time and money. By auscultation we are able to distinguish between a normal peristaltic rate,

hypermotility and a silent abdomen. Between the latter and marked hypermotility there are all degrees of activity, but in the normal individual the rate is fairly constant.

If one listens to the normal abdomen at arbitrary points one inch above and one inch below the umbilicus, one will hear from five to ten faint tinkles per minute. The number of tinkles may vary slightly, according to the time of day and the temperament of the individual. Peristalsis is more active for an hour or two after meals. But the normal stomach or intestines never emit loud, harsh or prolonged gurgles.

Spasticity of the bowel and some pathologic conditions produce a marked change in these sounds. The number of tinkles is increased to twenty per minute or even to a continuous gurgle. The high-pitched tinkle of the normal abdomen is replaced by a rumble, low-pitched and harsh. Sometimes the sounds are so loud that the stethoscope is not necessary.

Increase in peristalsis is usually not constantly present in the same individual. There may be quiet intervals of days or weeks. In some extremely neurotic individuals, however, it is present nearly all the time. Stevens,¹ who has carefully studied abdominal auscultation for a number of years, says, "It may be possible to distinguish the sounds produced by the contractions of the stomach from those of the intestine by the higher pitch of the former, due to a greater amount of air in the stomach."

The unstable colon usually presents hypermotility, although, in a few instances, there is such marked spasm at the pylorus, and presumably throughout the intestine, that no sounds are heard; but after the administration of belladonna, phenobarbital or morphine hypodermically, they will be noted. This is true where there is a large amount of gas in the cardiac end of the stomach. During the acute stage, characterized by severe pain in the epigastrium, distention and gas, there may

be no sounds audible. With hypermotility the sounds are low-pitched and harsh. When the gas localizes in the right lower abdominal quadrant it may clinically simulate closely an attack of appendicitis, but it is rare to find marked activity of the intestine accompanying an inflamed appendix.

Hypermotility is often the first indication of an unstable nervous system. Before the individual is aware of any abnormal tension or indigestion, auscultation may reveal an increase of the peristaltic rate.

The value of auscultation in relation to pathologic conditions of the abdomen lies in the aid given to the differential diagnosis of acute inflammatory lesions. It is well known that hypermotility is the rule in peptic ulcer, diseases of the gall-bladder, carcinoma of the stomach and chronic appendicitis. Stevens has noted hypermotility in four cases of coronary occlusion. As the peritoneal inflammation spreads, motility lessens. All surgeons recognize the silent abdomen of peritonitis.

Acute indigestion which simulates appendicitis has a persistent hypermotility, which increases with the severity of the pain. At times, when it is not easy to have a blood-cell count made, this is often a valuable differential point. Steadily increasing pain in the right lower quadrant with diminishing or absent peristalsis suggests a strong probability of an acute inflammatory condition. If an enema has been given, the value of auscultation is lessened, because it is difficult to distinguish between peristalsis and the gurgling of water in the intestine. The taking of salts or castor oil by the patient destroys its value also.

A neurosis or psychoneurosis frequently complicates many of the more chronic diseases where hypermotility is the first indication of an unstable nervous system, before the individual is aware of any abnormal tension or indigestion. Abdominal auscultation here may reveal an increase of the peristaltic rate. When spastic constipation develops in association with an organic lesion of the abdomen, the spastic state of the colon may persist after the organic lesion has been relieved, because of a neurosis incident to the unstable nervous condition following the primary trouble. Many patients feel that if they could obtain relief from constipation they would regain a normal state of health, but unless, with the temporary relief of the constipation, there is an improvement in the nervous condition, the trouble promptly recurs.

Other lesions presenting hypermotility are:

1.—Cyclic or periodic vomiting in children has always been obscure. Holt and Howland² say, "These cases have nothing in common with ordinary attacks of indigestion. With our present knowledge they are to be regarded as explosions due to faulty metabolism."

2.—Acute alcoholism frequently presents hypermotility, because of the discomfort and flatulence experienced for a day or two after a bout.

3.—Constipation is often due to a hypertonic rather than an atonic condition of the bowel.

When the fecal masses are retained they become irritants causing spasticities throughout the colon, the pouches of which are filled with feces and gas. As the musculature of the bowel becomes over-stretched by these contents, the ileocecal valve loses its competency. Therefore, when a case of constipation is presented, it is important to distinguish between the sluggish colon, which lacks sufficient stimulus to work, and the fatigued, weakened colon, which lacks power to propel its contents. To treat any given case of constipation successfully, it is important to ascertain the exact etiologic factor, as well as to recognize its development. The classification is almost too extensive and technical, hence we must bear in mind the important distinguishing features of the several stages of chronic constipation.

X-ray examination of the gastro-intestinal tract after the barium meal is of value in diagnosing the presence or absence of stasis.

In order to determine to what extent stasis existed in patients who had undergone such an examination, 2,000 cases coming under observation within a period of a little over a year were reviewed, with the following results: The ileocecal valve was found to be incompetent in 1,316 cases, or 65 percent; spasticity of the colon was present in 675 cases, or 33 percent; dilated cecum in 285 cases, or 14 percent; delayed emptying time of the colon beyond fifty hours was found in 976 cases, or 48 percent.³

The frequency with which incompetency of the ileocecal valve was observed was probably due, in part, to the fact that enemas given to normal individuals are sometimes responsible for the incompetency. There are, however, cases of incompetency due to a long-continued spasticity of the distal colon which, in turn, is responsible for dilatation of the cecum, with accompanying incompetency of the valve, the presence of which tends to delay the emptying time on the part of the colon and to stasis in the terminal ileum, which I believe is reasonable evidence of the presence of colitis.

Proctosigmoidoscopic examination should always be done in every case of colon dysfunction.

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A Plea For Postpartum Uterine Massage

By James A. Dungan, M.D., Greeley, Colo.

SINCE the authorities in obstetric procedures mention massage after confinement, if at all, only to condemn it, it might seem out of place to formulate a plea in its behalf; nevertheless this is the purpose of my present effort, though with no intention of starting a controversy.

The objections, where any have been vouchsafed the reader of textbooks on the subject, were: (1) That, by postpartum massage of the uterus, postpartum hemorrhage was induced; (2) that disease conditions of the ovaries, broad ligaments or fallopian tubes, might be aggravated by the procedure; (3) that other conditions, not connected with the genital organs, but merely in the neighborhood, such as appendicitis, colitis or cystitis, might equally suffer as a result of it.

I will reply to these objections in order.

Many, possibly most uterine hemorrhages after delivery, are directly traceable to rough methods employed during the progress of labor, rather than to efforts at massage after labor. Nevertheless it is true that any traumatism to the uterus, either before, during or after labor, might well be the cause of uterine postpartum bleeding. But that is far from admitting that a gentle, yet thorough, massage of the uterus may not be done, not only without harm, but actually with great and lasting benefit, to the uterus and the patient alike.

It has been didactically stated in textbooks—one author apparently following his predecessor, and quoting him almost verbatim—that clots already formed in the uterus after labor, for the purpose of preventing bleeding, were loosened and expelled by massage, therefore bringing on bleeding.

To this I would say that, so far as it applies to the first twenty-four hours after labor, it is true. Within this period I use no massage, preferring adequate doses of ergot, (if the uterus is thoroughly emptied of all secundines), and several of them. This holds the uterus contracted and allows it to recover from its semi-parietic state, induced by its nine months of increasing dilatation; but at the end of twenty-four hours it has recovered its tone and is ready for a gentle and properly given massage. At this time, although the ergot may well be discontinued, it will be found that massage may be given for ten minutes at a time, twice or even three times a day, and thereby a hemorrhage will, not only not be induced, but will be prevented; and moreover, upon each subsequent massage, the uterus will be found hardened and in its correct position.

In regard to the second objection, that diseases carried along in the adnexa during pregnancy might be unfavorably affected by massage, I wish the reader to recall that, also during pregnancy, a considerable (and normal) edema has developed, both in the uterus and adnexa, and that many antibodies have been meanwhile elaborated within the tissues, by the means of which all danger from these affections has been greatly diminished or eliminated. However, if dangerous diseases of the adnexa are known to exist, it is rather an argument for massage than otherwise—though gentle handling will be the more important—as much may be done, by such massage, to improve the condition of these affected organs, the advent of a pregnancy, in fact, offering the discerning physician opportunities, which he might not again have, for leaving the genital organs in better condition than when he found them, before and during labor.

A woman may have a badly formed and mal-posed uterus before conception, but after conception, particularly after the uterus has risen up and out of the pelvis, these malpositions and malformations, as is well known, are automatically corrected, though only for the time being, as they tend to return after labor is over.

Since all the ligaments and other appendages of the uterus are greatly edematous during pregnancy, the physician may, by a massage directed to the under and posterior aspects of the uterus, which is possible at this time, produce an actual stretching affect upon the contracted ligaments, restoring them to their normal length and the uterus to its normal position, which it will be likely to keep when the patient is again up and about. These women are immensely improved by these massages.

As to the third objection, that diseased neighboring organs might be the unfortunate recipients of damage during a postpartum massage, it is only necessary to call attention to the fact that all that was said in regard to the second objection is entirely applicable to the third, also.

When labor is over; the secundines expelled; the uterus fully contracted, following steady pressure by the hand, continued long enough to be sure that it will stay contracted; the patient cleaned up and made snug with a proper "T" binder (see Fig. 1) for the night; and ergot given, twenty-four hours are allowed to elapse before the first massage is given. In all probability the physician will not have time to do this personally every time, so he should lose no time

in properly instructing the nurse, if, as is likely to be the case, she does not understand the procedure.

If the uterus has contracted properly after labor and ergot has been given at intervals

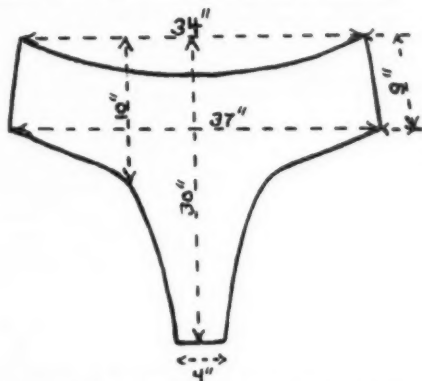


Fig. 1.—This T-binder is made of unbleached muslin and doubled. The accoucheur should have at least two dozen on hand at all times, two binders being allotted to each patient.

through the first succeeding twenty-four hours, there will be no clots to speak of in the uterus; but if clots are there at that time, by any chance, the sooner they are out the better, for of course their presence means that there has been a certain amount of oozing during the hours after delivery, and the sooner that is stopped, by means of firm contracting of the uterus, the sooner will the woman get up after labor and the stronger will she be.

I make it a practice to keep a woman in bed after labor until all color has disappeared from the lochia, and with proper massages this is usually ten days.

The watch word of this massage is, *gentleness but thoroughness*; and while it is true that the size of one's hand would naturally have something to do with the amount of gentleness and thoroughness one could successfully administer, yet with practice one may become sufficiently adept, no matter what the size of one's hand may be.

Technic

Whatever sort of a bed the patient has used for accouchement, she will probably have been placed on the right side of it, so the physician will have been able to use his right hand during the labor, though the left hand will usually be found the better one to use in this manipulation. The physician's chair faces towards the foot of the bed, with the patient still on the right side of it.

With the binder loosened and the abdomen exposed, the nurse anoints the latter with warm oil, and is then shown by the physician how to proceed with the massage,

which she is to give, generally twice or perhaps three times a day.

With the left sleeve rolled up to the elbow, the hand of the accoucheur is turned, ulnar surface downward, and gradually sunk down behind the fundus of the uterus, which is generally easily outlined, except in fleshy women.

It is not to be understood that the massage is to be started with any considerable vigor. On the contrary, it is, at first, merely an undulating movement—a lateral movement of the hand up and down with the little finger gradually working its way under the uterus, if this can be done. It will be seen that the wrist must be flexible, to permit the proper undulating movement of the hand; and it should be borne in mind that, at all times, very constant and firm pressure is to be kept up against the fundus by the massaging hand, the fingers having already succeeded in cupping themselves about the upper pole of the uterus.

At this time the uterus will be found about the size of a grapefruit; but as the manipulation proceeds it will grow smaller and smaller until, at the expiration of the ten minutes or so allotted to it, it will be found to be about the size of a baseball, and almost as hard.

Pain, complained of at the start of the procedure, generally does not last longer than the first five minutes, after which time I have always found I could proceed with as much vigor as I liked and with no pain, but rather a sense of ease to the patient.

With the hand of the operator now engulfing the uterus as it becomes smaller, the motion of the hand is not so much an undulating one—from side to side—but is better described as a constant, firm pressure, with only slight massaging motions done by different parts of the hand.

If it is desired to make tensive movements forward on the fundus, to correct malpositions of the uterus, they can safely be made at this time, always bearing in mind the possible presence of adhesions between the uterus or adnexa and coils of bowel, and making the movements very gently in suspected cases; though, as was stated, these adhesions, as well as the adnexa and other tissues, will be found to be heavy with water and easily stretchable without damage. Thus the physician has a chance, which he may never have again, to render the patient a distinct service, by leaving the organs concerned in labor in their best anatomic shape and position.

Perhaps, since the idea of post-partum massage is in a sense controversial, it might seem appropriate to adduce evidence in its favor, in the form of a number of case reports; but since space in medical journals is limited, I will only say, in conclusion, that I

have used this method in several hundred cases, always with good results, and, in addition, I have reaped the unfailing gratitude of the patients.

In no case where it was used have I en-

countered any serious infection, and I have no hesitancy in attributing this highly satisfactory result, at least in part, to the fact of the massage itself.

1539 10th Avenue.

The Moody Child

By Don Chalmers Lyons, D.D.S., M.S., Jackson, Mich.

CHILDREN with unstable emotions can be found in many family groups and present a distinct problem to their parents.

It might be advisable, at the outset, to define unstable emotions, although the mother and father of such a child seldom need a definition, however much they need help. Their child reacts vigorously (and that is putting it mildly) at the slightest stimulus. The youngster goes into a screaming, kicking, breath-holding act when, for example, he is told that he can not have something he had desired. The child that sulks without a good reason is another type. In many instances such emotional activities or responses are called moods, or perhaps go undiagnosed, as simply nervousness. There is a tremendous number of ills and ailments that go under that broad designation, many times unwarrantedly. Moods are true emotions, being defined as such, but limited to responses of comparatively short duration.

Emotions, whether during childhood or later, are the most compelling and self-asserting of all psychic states. In other words, the child acts as he does because he has to act that way. He cannot help himself. This is a factor which many parents fail to appreciate when they attempt to correct or punish their child for an emotional outburst. When young Johnny Smith reacts in a certain way to a certain stimulus (for instance, he deliberately throws his plate of food upon the floor because he does not like gravy which has been put on his potatoes) he is starting the development of a mood which may be expected to appear again at a later date in some similar manner. Punishment is not always the method to stop the development of this type of mood. The underlying cause must be found in order to treat it satisfactorily.

The temperamental equipment of the young child of early school age, or even the preschool child, is not to be taken for granted, as it usually is by most parents, for in temperament is to be found one of the greatest factors in the development of unstable emotions or moods. This is usually noticeable among children who are members of a family in which there are other children. It is then noticed that children of the same parents

raised under the same conditions, react differently. The individual may be submerged in the group and not always assert himself, but when he does, it is with considerable vigor and not always in a controlled direction.

There are many causes for moodiness in children, but for the most part two stand out as being the most common: the psychologic and the physical. One may control moods or emotions in some degree, only if the source is found.

Anxiety Neurosis

The most common form of moodiness which is due to a psychologic basis is the anxiety neurosis, an emotional state which may be defined as an unreasonable response, in the function of the whole organism, to a mild stimulus or emotion. There is an inherent constitutional predisposition to excessive emotional response in some children or adults, or, in other words, a tendency to hysterical responses. In children of this group one can expect the most unusual behavior without apparent justification. When there is a discrepancy between the child's intellectual ability to grasp and correlate the demands of home environment and school activities with what home and school expect, one may find that he develops a typical anxiety neurosis.

Fear is the greatest and most usual basis. These children fear that they will not pass in examinations, that they will not be able to take part in some activity, and so on. Trivial things will produce responses all out of proportion to the cause. One child was seen not long ago, who had been suffering for five months from twitching hands and facial muscles. Investigation into the cause of this revealed that it dated to an automobile accident which the child had been in. No one had been injured and the car was hardly damaged. It was an accident which most individuals would have forgotten in a few hours, but it produced sufficient shock in this case to leave the residual reaction mentioned.

Many children of these groups develop hysteric habit formation. They fatigue easily, although apparently having abundant re-

sources of energy. One may expect various reactions of a psychogenic origin, such as persistent bed-wetting, stammering, trembling spells, twitching, arrhythmic breathing, asthmatic spells and various phobias or tics. One child who was recently seen developed swellings on various parts of the body, which were similar to hives, if anything excited her enough to make her laugh. Cases of partial paralysis have frequently been reported in individuals of this group. Such cases are very difficult to treat and involve the necessity of breaking down psychic reaction paths which are undesirable, and substituting others which are desirable.

Fortunately, most children develop unstable emotions because of some physical basis. This is, perhaps, mild but chronic in nature, and associated with either a normal or inferior nervous system. Lack of the normal amount of sleep, and indigestion, are two of

the commonest causes of these unusual emotional reactions during childhood. Such conditions as infected and aching teeth, infected tonsils, enlarged adenoids, intestinal inflammation, eye disorders, hearing disturbances, endocrine gland disorders, etc., may contribute their share in forming the mental state of the child.

The correction of these so-called moods often depends almost entirely on the recognition of the underlying physical upsets and their relief. Considerable attention is now being paid to endocrine balance during childhood, as a basis for unexplained emotional behavior. Even if the mood is purely on a psychologic basis, the physically handicapped person is poor reconstruction material, so good health is of first consideration in correcting the unstable emotions so commonly seen in childhood.

1405 Natl. Bank of Jackson.

Addison's Disease (A Case Report)

By M. Bernreiter, M.D., Kansas City, Kans.

IN 1855 Addison, the English physician, published, for the first time, a report of a group of cases in which, besides general weakness and anemia, a peculiar dark pigmentation of the skin was one of the outstanding symptoms. All these cases came to autopsy and, because the suprarenal glands were found to be diseased in all cases, Addison came to the conclusion that these glands must be the cause of the bronzing of the skin and the other symptoms. Similar observations by other men were soon made, and today Addison's disease, as the result of hypofunction of the suprarenal glands, is a well established clinical entity.

The adrenals, situated at the upper pole of each kidney, show two distinct portions: The central or medullary portion, of epithelial structure; and the outer or cortical portion, of connective tissue structure.

Hyperactivity of either the cortex or medullary portion of the suprarenal glands is usually due to some type of tumor, and the symptoms depend upon the age when hyperadrenalism appears, resulting in pseudo-hermaphroditism, pubertas precox, virilism and hirsutism.

Hypofunction of the suprarenal glands as a whole may result in Addison's disease, which is due to tuberculosis (90 percent), atrophy or malignant disease of the suprarenals.

The most prominent signs and symptoms of the disease are: asthenia, pigmentation, nausea, vomiting, loss of weight, dizziness, hypotension and circulatory failure.

Treatment: Before the development of the suprarenal cortical hormone of Swingle and Pfiffner, the treatment of Addison's disease was seldom successful and most cases progressed to a slow, fatal termination.

The object in presenting this case report is to give the details of a case with Addison's disease, treated with Eschatin, prepared by Parke, Davis and Company according to the method of Swingle and Pfiffner, each cubic centimeter of extract representing 30 grams of fresh beef adrenal cortex.

History and Examination

Mrs. H. S., age 51, foreign-born, had the regular childhood diseases. About thirty years ago she was delivered of twins at term. One of the babies died at the age of three weeks, and the other at the age of five weeks. The cause of death is unknown. In the same year the patient had three abdominal operations, during one of which the uterus and both tubes were removed. She made a good recovery and felt fairly well up to about four years ago, when she noticed dark spots appearing on the face, arms, and finally all over the body. She also became gradually weaker and nervous, lost considerable weight and had much headache, dizziness and nausea. She was finally unable to perform her duties as a housekeeper.

The family history is not important. The mother died at the age of 74; the father at the age of 65, the cause of death being unknown. Two brothers, ages 42 and 48, and three sisters ages, 46, 54, and 62, are still

alive and well. There is no history of malignant disease or tuberculosis.

Examination: The patient was poorly nourished and seemed quite weak. She was five feet and four inches tall and weighed 120 pounds. Temperature, 99°F.; blood pressure, systolic, 85; diastolic, 65; pulse, 90 per minute; the eyes reacted to light and accommodation; the nose was normal; the teeth were badly in need of dental repair and a brownish discoloration of the gums was noticed; the tonsils showed signs of chronic tonsillitis.

Chest: There was patchy pigmentation over the entire chest, the color varying from light-brown to dark-brown. The bronzing of the skin was more marked on the exposed parts. There was a fatty tumor the size of a fist below the right scapula.

Abdomen: Characteristic patchy pigmentation of the skin was present and the abdominal wall was very flabby. The rectus muscles were widely separated, and the examining hand "fell" with ease through the abdominal wall. The spleen was not palpable; liver not enlarged; slight tenderness over the region of the gall-bladder. An old abdominal scar reached from the umbilicus to the symphysis pubis, but no tumors were palpable.

Sex Organs: The uterus and cervix were absent; the vagina normal; the fallopian tubes and ovaries were not palpable.

Extremities: Very dark, almost black,

patches of pigmentation were present on the upper extremities and less pronounced on the lower extremities. There were varicose veins on both legs. All reflexes, except those of the abdomen, were normal.

Laboratory findings: Hemoglobin, 75 percent; red blood cells, 4,004,000; leukocytes, 5,000; urinalysis, negative; Wassermann blood test, negative.

Treatment

For the past five weeks the patient has received intramuscular injections of Eschatin, 1 cc. two or three times a week. There was no other medication. She has gained ten pounds of weight, is feeling stronger and is now able to do her daily housework. The dizziness and nausea have completely disappeared. She has a good appetite and sleeps well. The pigmentations, though still present, are slowly receding.

Comments: Although no conclusions can be drawn from the therapeutic results in only one case, I believe that Eschatin is effective in prolonging life and relieving symptoms in cases of Addison's disease. Permanent cure cannot be expected, but the possibility exists that, by supplying the necessary cortical hormone, the diseased suprarenal glands, if not completely destroyed, will regenerate and once more undertake their normal physiologic function.

Huron Bldg.

THE GREATEST LABORATORY IN THE WORLD

Down in the secluded valley where the snow hangs heavy on the long-needle pines is a little house. Light gleams from the windows in the soft blue of the midnight sky and sounds of merriment burst from within.

Here is home—somebody's home—the Greatest Laboratory in the World—the laboratory of Life!

Let those of us who may work with serums and vaccines, bacteria and blood counts, in great institutions amidst white walls, talk of testing and evaluation. It is HOME where the REAL test is applied . . . the acid test of life. Here came first the man and woman; later the children. Here trial and tribulation, sorrow and tears, joy and song, always work . . . yes, and perhaps the Guardian of the Gateway.

And always, if the tests were true, there was Love—love of man for woman; love of parents for little children; love of children for parents; love for friends; love the abiding, all-enfolding answer to the acid test of life.

Finally, weaving in and out of the patterns, almost a symbolic yet certainly a human figure, always radiating love and beloved by these workers in the Greatest Laboratory in the World, comes and goes the family doctor. May God bless him wherever he is.—MURRAY BREESE, New York City.

CHANGING MORALS

We must be forever critical of our morals, as we are of our ideas and of our tastes. And if progress is to be assured and human happiness protected, when the time is ripe we must be prepared to junk a set of worn-out morals and boldly adopt a new and more adequate one.—CHARLES H. HEIMSATH, in Harpers Magazine.

PHYSICAL THERAPY AND RADIOLOGY

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Scientific Thermal Therapy

By Joseph E. G. Waddington, M.D., Detroit, Mich.

EMPIRICISM, although occasionally productive of satisfactory results, can never attain to the accuracy and confidence of experience scientifically developed from knowledge founded upon the fundamental principles underlying cause and effect. Exactness of therapeutic results is directly proportional to the exactness of diagnosis; and a correct concept of the physiology and physics of a physical therapy agency is requisite for its scientific and practical application and re-application.

Scientifically expressed, in the phraseology of physics, the distinction between hot and cold; between increased and decreased temperature, is merely a difference in the average kinetic energy of the molecules thereby affected. Mechanical energy, however and wherever expended, is transformed into energy of molecular motion; this must inevitably register or react as heat, thus exemplifying the fact that energy may be transformed, but it can never be created nor destroyed.

Heat is vital to human existence and bodily health. Normal, subnormal and abnormal production of body heat is dependent upon similarly qualitative physiologic or pathologic oxidative reactions in the tissues; heat, therefore, should be an important agency in the treatment of disease.

The reciprocally antagonistic reflexes, which physiologically constitute the heat regulating mechanism, are intricately and delicately controlled by many variable factors. Tissue combustion or oxidation gives rise to heat, which manifestation of energy is more or less equalized throughout the body, chiefly by means of the systemic circulation,

whereby the blood abstracts heat from warmer tissues and transfers it to cooler ones. The constructive and destructive reactions which constitute metabolism can be chemically or electrically (ionizingly) sustained at a healthful equilibrium only with a thermal body norm of from 98.36° to 98.98°F.

In appraising temperature, it should be understood that the thermometer is not a precise indicator of the amount or extent of thermal activation within the body. An increased thermometer reading may be indicative of either increased heat production or of decreased heat dispersion.

Increased heat accelerates catabolism and anabolism, but the thermal regulating mechanism of the body can dispose of much exceptional heat without registering any exceptional rise in general body temperature. Consequently, the aim of thermal therapy can only exceptionally demand sustained high temperature readings, the major proportion of heat applications being required to induce only that degree of heat which will be sufficiently intense to stimulate, and not to impair, desired functional activity.

Authorities inform us that 90 percent of sickness is chronic in character. We all know that, in most chronic conditions, the temperature, as registered by mouth or axilla, is normal; nevertheless, the more or less localized or circumscribed pathologic area will unmistakably evince signs of stasis or of hyperemia; of decreased or of increased circulatory activity and corresponding thermal reactions. Localized, as well as generalized, thermal applications increase heat within the directly and contiguously responsive tissues, as a resultant of several intimately

related factors. The affected blood supply is augmented through vasodilation; an accelerated circulation ensuing from diminished frictional resistance within the capillaries; and a reduced viscosity of the circulating fluid.

Increased temperature of the body, as a whole or in part, connotes a more or less extended, superficial or profound, hyperemia. Thermal therapy is designed to exchange a sluggish, passive or venous hyperemia into an active or arterial increase of blood in some one or other part. Such an exalted condition of the circulatory system, with its consequent leukocytosis and phagocytosis, powerfully influences the processes of absorption and growth connected with tissue repair and regeneration; promotes cell proliferation; and incites a defensive mechanism against irritation. In other words, expertly applied heat is indicated to incite a benign, delicately controllable, local inflammatory response; it is exceptionally applicable to initiate a general or constitutional reaction against a more or less generalized infection; and it is also a valuable surgical agency.

Heat therapy physiologically coincides with the two phases of inflammation or the local reaction of the body to irritation. These two inflammatory phenomena or objectives are, according to Boyd ("A Text Book of Pathology," p. 27. Lea and Febiger, 1932): first to destroy and eradicate the irritant; second to repair or mitigate the damage done to the tissues. It will now be clearly apparent that thermal therapy is dependent for accurate results upon the precise nature or modification of the agency employed, and the degree and duration of its application. Acute, subacute and chronic pathoses, hyper- and hypotonicity, will be amenable to the respectively indicated stimulant or sedative, mild or intensive, superficial or profound application of that form of heat to be judiciously selected by the requirements of each individual case.

Heat may be transferred or communicated from one object to another in one of three different ways: conductively, convectively, or conversively. Conductive heat is applicable through the agency of a hot-water bottle, poultice, electric pad or fomentation. Convective heat is exemplified by a radiator or an electric light bulb, which transmits its heat to the body through the medium of the intervening heated air. Conversive heat implies, primarily, not a thermal agency in itself, but a **vibratory** manifestation which, meeting with resistance, is thereby converted into heat energy.

Application of heat to the body implies a primary or direct thermal and sensory effect upon the **skin**, and a secondary or indirect, thermal and non-sensory reaction

within the deeper tissues. The cutaneous nerves, with their combined protopathic and epicritic systems, enable the body imperfectly to localize extremes of heat and cold and to differentiate accurately between the more delicate fluctuations of temperature. Only through understanding of these preliminary physiologic facts, can a practical and satisfactory application of thermal therapy be assured.

Methods of Application

The popular and convenient hot-water bag, which has, physiologically and physically, relieved many a pain and ache is, unfortunately, from the very nature of its dry conductivity, exceedingly superficial and evanescent in its thermal response. An electric pad, locally applied, is only a more equably sustained form of the same kind of heat. Hot, moist applications (packs, compresses, fomentations) lessen skin resistance; are always easily available; and, when correctly protected from evaporation, accentuate and sustain calorific reaction of creditably intensive degree. Hydrotherapy has developed so lavishly as to require institutional installations for scientifically expert utilization; it constitutes a distinct type of therapy in itself, and needs no further reference at this time. Poultices, whether of plain, medicated or bizarre construction, still retain a fallacious popularity, which is only tardily diminishing as scientific thermal therapy becomes more practically demonstrated.

One thousand (1,000) and 1,500 watt, gas-filled, tungsten-filament light bulbs (alluringly advertised under the deceptive misnomer, "deep-therapy lamps") have been and still are enthusiastically utilized for inducing therapeutic heat reactions. An incandescent light bulb emits both visible and invisible heat rays, but upon the latter, or infrared rays, very materially depend its heating qualities. Because of the definitely irritant quality of some of the visible radiation, as emitted through the intervening glass, these bulbs are decidedly inferior to infrared generators as thermal applicators. They have also been known to explode, with disastrous effect upon the exposed underlying patient; also, a carbon filament bulb of 350 watts or less can be comfortably applied at a less distance from the patient than the bulbs of higher wattage, and thus beneficially localize all the radiation upon the indicated part or parts; whereas, with more intense applications, a considerable proportion of the heat is wastefully and expensively dispersed into the surrounding atmosphere.

Despite much scientific controversy, the researches of Professor Hall, of Duke University, North Carolina, besides other confirmatory observations by conservatively minded investigators, would appear to demonstrate theoretically and clinically, a less irritant and

more deeply penetrant effect from the infrared rays ranging from 14,000 to 50,000 A.U., than with the visible and shorter invisible rays of the spectrum. Professor Hall has estimated that the capillaries within three millimeters of the skin surface are capable of holding 50 percent of the entire blood supply of the body. Also, that infrared rays not to exceed 50,000 A.U. in length will pass most satisfactorily beyond the superficial sensory nerve endings, to be absorbed and, thereby, considerably enhance the capillary circulation.

An infrared generator is not only a convenient and valuable therapeutic adjunct in the physician's office, but may be satisfactorily prescribed for domestic use as a safe and greatly superior heat application to water bags, poultices, electric pads and other sources of superficially absorbed, conductive heat.

Diathermy, as the therapeutic application of a high-frequency current is technically termed, is not heat in itself. The vibratory impulses of the current, which surge back and forth at a rate of half a million or more alternations of polarity per second, induce no contractile response in the tissues but, meeting with resistance therein, are thus converted into heat. This vibratory energy penetrates through the skin with a minimum of sensory resistance. Such a convective form of heat is, therefore, more deeply penetrant and diffusive than either convective or conductive heat, which latter primarily and more irritantly affect the sensitively reactive skin.

However, for official applications (nasal, vaginal, rectal, etc.), the ThermR applicators are incomparably more beneficial, convenient, safer and less expensive than diathermy or any other form of heat, including the Elliot device. The conductive heat of the ThermR device extends equally throughout the length and breadth of the entire electrode, the temperature being automatically controllable to any precise degree desired. These localizing applicators are all uniterminal, there being no necessity for a biterminal dispersive electrode.

Diathermy

Diathermy requires the application of two parallel electrodes, between which the high-frequency alternations vibrate more or less directly or indirectly to evoke a thermal response; such reaction is dependent for its intensity and localization upon the equal or unequal size of the electrodes and their respective position and, correlatively, upon the anatomic characteristics of the contacted and underlying, more or less heterogeneous, tissues, which interceptingly resist and thereby convert the current into heat. Consequently, diathermy is an extremely powerful thermal agency which necessitates careful and skillful attention to many details, in

order to ensure the acme of desired therapeutic results with a minimum of untoward reaction. It may be flexibly adjusted to any or all parts of the body, when deeply penetrant, sustained heat is indicated.

As a generalized application, for the induction of hyperpyrexia or induced fever therapy, diathermy is especially indicated in the treatment of paresis, and has been advised and used as a remedial agent against polyarthritis, Parkinson's disease, non-syphilitic myelitis, multiple sclerosis, poliomyelitis and many other otherwise intractable and uncertain conditions. Electrically induced hyperpyrexia authoritatively demands a temperature of from 103° to 104° F., sustained for several hours. Naturally, the physiologic reactions and the technical or mechanical details of application involved constitute an exceedingly delicate and serious therapeutic problem.

In an effort to lessen the mechanical difficulties inherent in extensive and long sustained diathermy applications of massive dosage, various forms of combined hydro-electric devices (electric blankets, infrared cabinets, electric light cabinets, special insulating "bags" and covers) have been devised, but all, apparently, have their own particular disadvantages, as well as certain advantages. However, before deciding upon the precise method for inducing artificial fever, we should consider the necessity for such an heroic form of therapy. To enjoy the healthful advantages of "fresh" air, it is not necessary to be knocked down by a cyclone; likewise, in order to incite a physiologic phagocytosis and thereby initiate a remedial immunization, or to create a mild degree of systemic elevation to accelerate a depressed or perverted metabolism, it is unnecessary, and even harmful, to raise the temperature beyond certain optimum limits. Varying degrees of temperature, varying produced by various hyperpyrexia agencies, may and do differ extraordinarily in their physiologic and pathologic repercussions.

Unduly sustained and intense calorific stimulation may quite conceivably eventuate, not in an increase, but in a decrease or depression of metabolism, and even in death of the protoplasm. A thermo-lethal temperature for destruction of micro-organisms is not to be enthusiastically commended if, and when, the oxygen content of the blood can be more safely increased by a milder degree of heat. It was Pasteur who discovered that the oxygen in the blood is a powerful anti-microbicidal agent.

A method of applying conductive heat to the body without contacting irregularly resistant tissues enables the heat to be equally transmitted to the deeper parts of the body. Long, stirrup like, flexible applicators are applied, extending from the crotch, around each foot and up to the waist line. This con-

ductive heat application apparently disposes of all the objections inherent in other hyperpyrexial agencies and is delicately controllable within any desired degree and duration of pyrexia and hyperpyrexia.

It is scientifically demonstrable that heat therapy is, therefore, an adjustable and efficient vitalizer. The blood distributes the heat throughout the entire body; and thus interrelated hematinic-thermal changes are induced, which affect all the anabolic and cata-

bolic processes upon which life itself is dependent. The blood is the conveyor of both the constructive and the destructive or effete substances of body metabolism, and must inevitably and invariably contain all the myriad variety of substances peculiar to each and every tissue composing the body. Consequently, scientific heat therapy would appear to be an agency of incalculable benefit and extensive adaptability.

110 Atkinson Avenue.

NOTES AND ABSTRACTS

Temperature Determinations During Local Application of Diathermy*

WE made determinations of the temperature produced on the skin surface and underneath it during the application of diathermy, by means of thermocouples. We employed both the parallel-plate and cuff techniques.

Cutaneous and subcutaneous or intramuscular readings were made for an interval of several minutes before the current was turned on. The subcutaneous temperature showed a slight tendency to rise directly after the insertion of the needle, probably due to the inflammatory reaction evoked by the presence of a foreign body. The cutaneous temperature rose to 42° C. from the original level of 33.6°. The subcutaneous temperature rose from 33.8° to 44° C. The temperatures persisted at about these levels until the current was discontinued. It then fell, at first sharply and then more slowly.

To determine the temperatures produced in the tissue intervening between two metal cuffs, strips of composition were made to encircle the leg a short distance above the ankle and below the knee. The distance between the cuff edges was six inches. A thermocouple needle was inserted midway between these edges to a depth of one inch into the muscles of the calf. Temperature readings were made of the tissues surrounding the tip of the needle and also on the skin surface in the regions near the cuff edges and midway between them. The cur-

rent strength at the start was 600 ma. This was raised to 800 ma. after a period of eight minutes.

The intramuscular temperature gradually rose from 35.2° to 42° C. The surface temperature of the skin near the upper edge of the lower cuff rose from 31.6° to 39.6° C. The surface temperature of the skin near the lower edge of the upper cuff rose from 32.2° to 38° C.; while the temperature of the skin area midway between the cuffs rose from 31.6° to 38.4° C. After reaching these levels, the temperature fell about one degree and so remained during the course of the experiment.

The determination of the temperatures in the stomach during the application of diathermy was made by means of a thermocouple swallowed in a stomach tube. The patient was watched fluoroscopically, to check the location of the thermocouple, and given a little barium to determine the stomach location. By applying diathermy with anterior-posterior electrodes to the stomach area, the temperature in the stomach was increased 3.6° C. above that at the beginning of the experiment, and 3.4° above body temperature. The increase was gradual up to the maximum, which was reached in twenty-eight minutes. When the current was turned off at the end of forty-four minutes, the stomach cooled off rapidly to body temperature.

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*Arch. Phys. Therap., X-ray & Rad., Nov., 1934.

THE FIVE SENSES AND EXPERIENCE

In the days before they had temperature controls for furnaces and ovens, the workmen guessed. When the instruments were introduced, it was found that the old-timers were seldom more than fractionally wrong.

Like the "electric eye," control instruments are tireless and have no off days. But man, dependent on experience and five senses, can still get along.

—The Little Journal for Physicians, Dec., 1934.

A LIVING FOR THE DOCTOR

(The BUSINESS of Medicine)

·Group Hospitalization*

IN spite of much loose talk about the high cost of "doctoring" in the peak year of 1929, only 29.8 cents out of each dollar spent for individual or public health in the United States went to the private practitioner. The usual run of mild illnesses that can be treated at home or in the doctor's office does not tax the middle class beyond its strength. It is when hospitalization becomes necessary, and room charges, laboratory and nursing fees begin to mount, that Mr. Average Citizen begins to realize what it means to pile Pelion on Ossa!

Increasing demands for free service threatened to bankrupt some of the outstanding medical institutions of Great Britain, unless they succeeded in establishing a steady, reliable source of income.

The now-famous contributory schemes were their solution. Groups of employed workers subscribe a small weekly or monthly sum, for which they receive, when necessary, three weeks of semi-private hospital service, embracing all items but the medical fee. The choice of a doctor is left entirely to the patient, and the amount charged is a private matter between the two.

While details of the plan vary in different communities—by the inclusion or exclusion of dependents, the income limits set, the degree of comfort provided, and so on—the essential features are the same.

The contributory schemes may be said, without exaggeration, to have saved the English voluntary hospitals from ruin. The satisfaction of the public with them is indicated by the fact that they number about four and a half million subscribers—more than the total registration under the compulsory health insurance act.

The success of the contributory schemes in England has given a strong impetus to group hospitalization in the United States. At the present time, more than one hundred hospitals, in about forty American communities, are engaged in some such project, with 75,000 subscribers already enrolled.

With slight variations to conform to local conditions, the method in most American cities is essentially the same. Each subscriber

pays a monthly fee into the central fund (by means of pay-roll deductions if he is part of an industrial group; by personal contribution if he is a solitary participant). These membership dues, ranging from five to twelve dollars a year, usually entitle subscribers to three weeks of hospital care in a semi-private room. As a rule, all necessary services and supplies are included, with the exception of medical care.

In this connection it is noteworthy that all the better plans grant hospitalization only at the instance of the applicant's private physician. Both the personal and the financial relationships between doctor and patient are undisturbed.

The steady progress which group hospitalization has made in the past five years makes it advisable to subject this idea to critical scrutiny, by way of determining its good and bad points. If, as seems likely, it is to be put into widespread practice, its faults and virtues must be clearly understood to ensure its application in the most meritorious form.

There are some who take exception to group provision for hospitalization because it is accomplished by a form of insurance. This is fear of a word rather than of a condition. As long as participation in contributory schemes for hospitalization is voluntary; as long as medical service is not included; and as long as the plans are non-profit-making and administered by the hospitals themselves, there are no grounds for apprehension merely because the principle of insurance is applied.

Some normally "closed" hospitals, on affiliating themselves with group payment schemes, have set aside a portion of their facilities for the use of practitioners not on their staffs. This is a progressive move in more ways than one. Not only does it enable physicians whose patients subscribe to group hospitalization plans to retain their practice, but it brings a large number of medical men who ordinarily have no such stimulus under the educational influence of a well organized medical institution.

If group hospitalization plans are to be non-profit-making, it may be asked what the hospitals are to gain by espousing them, sufficient to compensate for the initial expense

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involved. The answer is simple: A steady, assured income.

Obviously, then, the hospitals have the most to gain, in the immediate future, from widespread group provision for hospitalization. The advantages to the worker, aside from the moral benefits of self-reliance, are somewhat dubious, unless the plans are administered with sound financial and sociologic judgment.

If he can be persuaded that the continued abuse of medical charity will ultimately mean the slaughter of the goose that lays the golden eggs; if his own self-respect dictates to him the payment of his own needs; or if he feels that he is better off in a semi-private room, under the care of his own doctor, than in a ward, what assurance has he that group insurance will solve his problem?

It has been stated on good authority that the plans in force today are based on the assumption that only ten percent of the subscribers will be beneficiaries. Regular insurance companies, on the other hand, hold that provision for hospitalization requires a fifty percent margin for financial safety.

These figures are too far apart to be reconciled, even allowing for a substantial profit to the insurance companies.

Assuming ten percent to be a fair actuarial basis, the annual subscription fee should run from fifteen to twenty dollars, since the costs of three weeks' semi-private hospitalization, exclusive of medical service, usually come to approximately \$150 or \$200. Actually, the rates, in 32 representative schemes, range between \$3.10 and \$15.60 a year—and C. Rufus Rorem asserts that it should be five dollars or less per beneficiary in order to bring the public in line!

No wonder the Ohio State Medical Society, for one, holds that "any group payment plan for hospital service is contrary to public interest" unless the rate is determined upon the basis of "accurate actuarial figures."

While most of the existing schemes for group payment are framed primarily in the interests of the hospital, there is no doubt that the patient receives corresponding benefits. He is enabled to meet emergencies, with which it would otherwise be beyond his powers to cope, without recourse to the money-lender or the welfare agency. Instead of going into a ward, to be treated by a physician to whom he is unknown, he is able to have the services of his own doctor and the comfort of a semi-private room. Even if he received benefits only once in ten years, he would still stand to gain financially.

The influence of group hospitalization schemes upon the physician's status will depend entirely on how they are administered. If the hospitals keep faith with the practitioner, there is no reason why he should be injured. On the other hand, there are

possibilities for harm, against which the profession must guard.

It does not appear that group hospitalization plans actually will pave the way for compulsory health insurance. In any event, the profession does not waive its right in any way or withdraw any of its objections to state medicine. It can wage its fight against compulsory health insurance just as vigorously with group provision for hospitalization as without.

The fear that the hospitals will fall prey to commercialism and destructive competition among themselves does not appear to be warranted by experience. It is true that single-hospital plans encourage underbidding, unethical advertising, and such; but the trend is away from single-hospital schemes toward systems embracing all the reputable medical institutions in a given community.

Removal of the profit motive is another important factor in combating commercialism. If the movement is strictly cooperative, with not profit for anyone, there is no incentive to cut-throat competition.

If any danger exists, it is rather that hospitals, to attract subscribers, will exaggerate the importance of institutional facilities and minimize the rôle of the physician. To a certain extent this state of affairs already exists—and has existed for the past two decades and more. In the last analysis, the doctor is more essential to the hospital than the hospital to the doctor; and there can be no subordination of the latter to the former unless the physicians of the country are too supine and timorous to fight for their professional rights. This holds true with or without group provision for hospitalization.

Undoubtedly there is here the germ of a fair and practicable system for amortizing the costs of hospitalization without jeopardizing the ethical tradition or the economic interests of the physician. Whether this seed will fructify—and how—depends, in large measure, on the good faith of the hospitals and the vigilance of the profession.

WILLIAM ALAN RICHARDSON.

Rutherford, N. J.

Unusual Malpractice Suit

THE Medical Protective Company, of Wheaton, Ill., recently reported a decidedly unusual cause for a malpractice suit.

The case involved an unwed mother. Not knowing the father's name, the physician in attendance simply left that space blank in filling out the birth certificate. Later, the nurse in charge, noting the omission and following a custom, which prevails in some localities, of reporting the parents' names whether the child is born in wedlock or not, asked the mother who the father of the child

was, and receiving a definite answer, proceeded to complete the certificate by adding the name and address of Mr. John Jones (or whatever it was).

Still later in the day, following their precedent, the local newspaper copied the hospital's birth record, and that evening's edition contained the announcement that a son had been born to "Mr. and Mrs. John Jones." One can imagine the embarrassment and chagrin of Mr. Jones, who happened to be an unmarried "man about town"!

This occurrence was made the basis of a suit for damages, based on "professional services rendered," even though the doctor who was sued did not make the entry in question.

If this tale has a moral, it is that every physician in active practice should persistently and punctiliously watch, not only his step, but those of his assistants and agents.

A Collection Suggestion

I HAVE found it helpful to inclose with my monthly statements a colored slip, of a size to fit easily into the envelope, bearing the following message:

Have You Ever Heard

The story of how one lone ten dollar bill cancelled ten debts in ten minutes? Here it is, graphically.

A owed B ten dollars
B owed C ten dollars
C owed D ten dollars
D owed E ten dollars
E owed F ten dollars
F owed G ten dollars
G owed H ten dollars
H owed I ten dollars
I owed J ten dollars
J owed A ten dollars

The situation was stagnant. A did not pay B, so he could not pay C and so on down the line. Finally A did pay B ten dollars and B paid off his debt to C with the same ten dollars and C to D and D to E, etc., until it reached J who paid his debt to A. Thus A had his ten dollars back again and each of the other nine cancelled his debt and went along merrily.

Increasing the circulation of money will do more to help business than any other single thing.

I have paid every bill due. I would like to continue to pay every bill, because I get a kick out of making others happy. But the old check book will give out if my good friends who owe me do not do their part. Can you send me the amount that my records indicate is due from you? I'll pass it along and keep it in circulation.

P. S.: If you can't send the full amount, send one-half—something.

I have also used other slips, calling attention to various factors in medical economics, as a method of educating my patients.

F. R. BRAUNE, M.D.

Chicago, Ill.

A Worthy Medical Society

MY ideal of a worthy medical society is a society, in fact as well as in name, all honorable, registered physicians in the county being eligible to membership.

An official introduction should be given to new members, somewhat after the plan adopted by the Kiwanis, by a standing committee of introducers, perhaps identical with the membership committee.

The fundamental attitude should be a spirit of professional equality, brotherly solidarity and helpful altruism—a "big-brother" feeling. Overbearing superciliousness is abhorrent!

The officers should be true leaders in worthy enterprises; able and willing to enforce fundamental policies.

The committees should be appointed from the active membership, not merely ornamental or honorific.

The meetings should be as frequent as possible, and so interesting as to make a treat of regular attendance. Unexcusable absence from three consecutive meetings should be automatically equivalent to definite resignation.

At each meeting, a paper or papers should be read by an active member or members (newcomers preferred); such paper to report personal research or experience, or at least a careful, synoptic focusing on a live issue.

Discussions should be by two official discussants who are competent and closely scientific, after a two weeks' study of the author's manuscript. Extemporaneous discussions should be limited to three minutes each, by members who really have something to say. The chairman should impartially "squash" otiose balderdash.

Dinners, as an essential part of the meetings, should be eliminated in principle. If a free gift of a host, there should be a strict limitation of the expense to an impassible maximum. Ostentatious liberality reflects on the next one, who is unable, perhaps, to follow extravagant precedents.

There should be a complete, final, unconditional sloughing-off of petty jealousy. The other fellow should receive full credit for any worthy achievement that is beyond the scope of one's personal ability.

At the bottom of it all should be a foundation of true brotherliness, of helpfulness. The key-word should be SERVICE—self-effacing, for the good of all, not of the mere few of a chosen "clique" or "gang."

J. VAN BECELAERE, M.D., LL.B.

San Diego, Calif.

THE SEMINAR

"A MONTHLY POSTGRADUATE COURSE"

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 12—1934 (Medical?)

Presented by Dr. Isaac E. Crack,
Hamilton, Ont., Can.

(See CLIN. MED. & SURG., Dec., 1934, p. 583)

RECAPITULATION: A woman of 50 years had a cholecystectomy at age 30, but subsequently, for 16 years, had occasional attacks of pain similar to that before the operation. After that time the attacks became more frequent and were attended by chills, fever, jaundice and clay-colored stools. When relieved by morphine they cleared up in a few days. In November, 1932, the intervals between attacks were only 10 days.

It looked as if a stone was impacted in the common duct, but an operation, in December, 1932, failed to reveal it. After a stormy convalescence, she felt well for six months, after which the attacks recurred, with increasing frequency and severity. Aside from bile pigment, the urine was normal; the blood chemistry was normal; the direct and indirect van den Bergh reactions were both positive.

Requirements: Suggestions as to the cause of the attacks and advice as to their treatment. What, if any, further information is necessary to make a diagnosis?

Discussion by Dr. M. Gleason, Mendota, Ill.

Before attempting a diagnosis in this particular instance, I should desire a very detailed history, not only of the patient presented, but also of her ancestors. In this particular instance I should inquire into the diseases of ancestors as far back as the patient could possibly give any account. This is one particular point in history taking which is frequently disregarded and is of paramount significance regarding any pathologic or abnormal physiologic disturbance of the bile-forming organs. This patient, we know, had some disturbance of the bile-forming organs 20 years previous, for which a cholecystectomy was performed. The history beyond this period has not been accounted for.

As to the additional physical examination, I desire to know whether this patient had any slight degree of enlargement or tenderness of the spleen. Also, the most important portions of the hematologic studies were omitted; red-cell count and size, shape, condition and fragility of the red cells, along with the white-cell count.

This patient apparently has a hemolytic jaundice. At least that is what I would gather from the findings given. In this condition frequently, in adult life, stones are formed which are sufficiently large to give evidences of obstruction, such as clay-colored stools and direct and indirect positive van den Bergh's tests. However, they are rarely large enough to give persisting obstructive symptoms, and morphine therapy evidently releases them. This right hypochondriac pain in the patient is due either to this lithic formation or to acute distention of the liver during periods of acute hemolysis. The symptoms point to one condition—*hemolytic jaundice*. Hence the interrogation mark after "medical," because hemolytic jaundice is purely a surgical problem.

Discussion by Dr. E. C. Junger, Soldier, Ia.

One thing stands out plainly; there is an occasional obstruction to the bile flowing into the duodenum. Nothing is said of fatty stools at the time of these painful colicky spells, so we cannot blame the head of the pancreas for compressing the cystic, common or hepatic duct. If the sphincter in the ampulla of Vater were irritated or overdeveloped and this caused the obstruction to the outflow of bile and pancreatic juice, I should look for a definite chronic pancreatitis by this time from such frequent damming back of its secretion.

This leaves only one place for the obstruction, in the hepatic duct or one of its branches. It was not mentioned whether the gallbladder when removed had any stones in it or showed infection. If either or both were

present, we could look for the same pathosis in any of the hepatic ducts, the obstructing of which, by the ball-valve action of calculus on the spasm the irritation of the stone would cause, produces these spells as it did before the cholecystectomy. These obstructions, not interfering with the emptying of the pancreas, leave that organ undamaged.

If this patient is of the type where free exposure of the under surface of the liver could be had and the larger ducts visualized and explored or dilated, the obstruction might be located and an attempt made to remove it. The problem does not state that this was done at the time of the second operation when the common duct was the object of the laparotomy.

I feel certain that the cause for the colicky attacks lies in the hepatic duct, as any other pathosis in the liver or pancreas would hardly exist long without creating grave changes in these organs. A 4-plus Wassermann reaction might cause girdle pains, but hardly fits in here.

Discussion by Dr. M. O. Robertson, Bedford, Ind.

THE conditions reported in this problem are not uncommon following cholecystectomy, and I feel that this operation is rarely indicated.

A patient who has an infected gall-bladder almost certainly also has an inflammation in the liver and small bile ducts. The only answer to the condition is drainage, *drainage* and *more drainage*. The surgeon who removed her gall-bladder eighteen years ago no doubt did an excellent piece of surgery, and he did what some surgeons are still doing today. The fact that the patient went so long without symptoms led him, like many others, to feel that this procedure is correct. It is true that some cases do fairly well after cholecystectomy, but many do not, and then face this woman's problem.

Her entire hepatic system needs draining, and not merely an inspection, but how can it be done? The difficulty is a real one and yet it is the only solution of the problem.

The gall-bladder is a receptacle and not a secreting organ. How foolish to remove it when a draining sinus fails to close! When it does close, pain and elevation of temperature begin.

The real treatment is to open it up and let it drain more. I have, in such cases, anastomosed the gall-bladder to the duodenum. This may not be the ideal treatment, but it lets the drainage pass into the intestine and fever and pain cease. Removing the gall-bladder can not relieve hepatic inflammation.

This is not a medical problem; it is a surgical problem.

Before submitting this patient to another

operation, I should try the effect of one of the intravenous cholagogues; but drainage is, in my opinion, the only sound solution of this problem.

Closing Comment by Dr. Crack

I have found no solution of this problem and am eager for advice and suggestions.

During October and November, 1934, this woman seemed to be well; but early in December she had another typical attack, with chills, fever, pain and jaundice. This was relieved by morphine and now (Dec. 12, 1934) she again seems to be well.

Problem No. 2 (Medical)

Presented by Dr. E. D. Tanquarary,
Fort Scott, Kans.

MRS. M. K. is 33 years of age, and white. She was the seventh of nine children—a normal delivery and a short labor. There was no illness until she was eight years of age, when she had pneumonia and was in bed about two months, but it evidently left no ill effects. She had measles at the age of ten, with no complications.

Her menses began at thirteen years, and were irregular for two years. She was of the twenty-eight-day type and flowed three days, with no cramps and a moderate flow. At sixteen years of age she had an acute attack of appendicitis, and was operated upon.

In 1922, she was married and had libido. In 1924, she gave birth to a normal 8½ pound baby boy. She was in labor twenty-six hours, but it was a normal delivery. She nursed the babe until it was five months old, when it suffered from "summer complaint" and died. She remained in bed fourteen days postpartum, but upon getting out of bed her back hurt her, low down, over the lumbosacral area.

About three months postpartum she had pains in the pelvis, bilateral, over the ovary region. Relief was obtained at first by going to bed, and later by going to bed with ice packs. Very shortly she began to take treatment for this trouble, and at the end of nine months postpartum she was told she should have an operation. The last of August, 1925, she had a complete hysterectomy; that is, a complete bilateral salpingo-oophorectomy, and a hysterectomy. Her recovery was rapid and she was out of the hospital in two weeks.

Two months after the operation, she had a peculiar headache for one day. The pain centered over the left occiput and involved an area a little larger than a silver dollar. This occurred regularly every month for seven months. Then there was no pain for three months. At first there was a prodromal symptom of nausea before the headache. After this lapse of three months the pains began again and, in 1929, she was having this

pain every month, and the attack started with nausea and vomiting. These attacks were lasting from two to three days, and the patient was taking aspirin and Sendol for relief. This medication relieved her for about a year.

In the autumn of 1930, the headache became so severe that a doctor was called, and he administered morphine. From then on, until January 1, 1934, she had monthly attacks of nausea and vomiting, followed by this peculiar headache, lasting from two to three days, and requiring from three to six hypodermic injections of morphine every month for relief.

In January, 1934, she had this nausea and vomiting, with this headache, for four weeks, requiring from one to three hypodermic doses daily. She was given dextrose intravenously. After that she became better, but has had these attacks every two weeks until May 13, 1934, when she was sent to a hospital in Kansas City for an x-ray study of the head, to determine whether she had a tumor. She has had four attacks since leaving the hospital on May 27, 1934.

I saw her in her last attack, which began on Sunday, July 15, 1934. She had done nothing unusual the preceding days. Nausea and vomiting came on at once. This condition lasted until Monday afternoon, when she had the headache, which she describes as "piercing pains," and says that it "feels like a ball in just one spot." It is always located in the left occipital region, an area a little larger than a silver dollar. She had another doctor four times, but he gave her no relief, and she called on me on July 20, 1934.

I found the woman rubbing her head and pulling her hair over the left occipital region, and she gave out a sobbing cry. She had a temperature of 100.2° F., with a pulse of 98; blood pressure normal; throat normal. She had no pain save in the left occipital region. I gave her a quarter-grain of morphine and stayed until she got some relief, so that she was able to talk to me without sobbing.

I was called back that evening and found the same symptoms existing, so I gave a half-grain of morphine. She got relief from this until July 25, 1934, when they called me about

midnight, when I gave her another half-grain of morphine, followed by another half-grain at nine o'clock the next morning, and again that evening at ten o'clock. And now (Aug. 3) she had been up for a week and going about her work as though nothing had happened.

Reference was made to her libido. About six months after her operation, she lost her libido, and now sexual intercourse is repulsive to her. She feels well between attacks, and eats and sleeps well when not having an attack. During an attack she goes to bed, keeps a wet cloth over her face and mouth, rubs the left occipital region and sometimes pulls out her hair, the pain is so severe. Nausea and vomiting are not constant through an attack, but if she takes anything into her stomach it comes up. She sleeps very little during an attack. Sometimes she has an aura the day before which is manifested by nervousness; she will walk the floor, not eat normally, and at night sleeps lightly and is easily aroused, where as a rule she sleeps soundly. Shortly after the nervousness begins black circles are noticed under the eyes. Upon arising after a restless night she is, as a rule, nauseated, and upon eating breakfast generally vomits afterward. Then, as a rule, her peculiar headache begins that evening or maybe not until thirty-six hours after the nausea and vomiting.

This woman weighs 112 pounds and is 5 feet 2 inches tall. Her blood pressure is 118/78; urinalysis normal; temperature 98.8° F.; pulse 98. She has three partially decayed teeth; tonsils are small; no glandular enlargement; no cough; heart and lungs normal; no abdominal pains; no pains in the back; bowels move daily, when not in an attack. She is a moderate eater and does not indulge in strong drink, but smokes about ten "roll your own" cigarettes daily; is regular in her habits of sleep and eating. She gives no history of a syphilitic infection, but the blood Wasserman reaction is 4 plus, while the spinal fluid is negative.

Requirements: (1) Suggest diagnosis and treatment, stating reasons; (2) What, if any, further information is needed to make a diagnosis?

Do you enjoy THE SEMINAR? Then why not increase your enjoyment by taking part in the discussions yourself? Or send in a problem which baffles you or one which you particularly enjoyed solving. Send your solution (if you have arrived at one) along with it, typed on a separate sheet.

HARDHEADEDNESS

Teachableness must become a virtue if our morals are to keep abreast of our scientific advance. Our misery is too often a result of our stupidity. . . We have prided ourselves upon our hard heads, but there is no great virtue in the possession of an ivory skull.—CHARLES H. HEIMBATH.

CLINICAL NOTES and ABSTRACTS

Dogs Versus Babies

CHICAGO is passing through one of its sporadic attacks of anti-vivisectionism. This time the attack almost assumes the proportion of a pandemic, the antivivisection campaign now being waged in thirty-two states of the Union. There can be no doubt as to the ultimate outcome of the matter.

The interesting question arises as to the psychological aspect of these attacks. No one doubts the sincerity of those who are waging this war from the humanitarian point of view. The only doubt is as to the judgment of those actively engaged in the controversy who are antagonizing this very valuable aid in preventive medicine. Or is it a question of wilful ignorance—an unwillingness to recognize the incalculable good to mankind that has accrued from physiologic experimentation upon animals?

Almost everyone loves a dog, the physicians who carry on the experiments fully as much as their thoughtless or irrational antagonists. Man has no better friend among the so-called lower animals than the dog, who faithfully adheres to his master, however brutal or unresponsive he may be. Is it not fair, therefore, that this kind animal friend should still further show his value to mankind by bearing his share in the efforts to contribute to the welfare of the human race?

Which is better or more valuable, the dog or the baby? If it came to sacrificing the one for the other, would the dog be given the preference? Only an inordinate and perverted emotion would countenance such a choice—an absurd disproportion between a misguided sympathy and a rational sense of the proper relation of things. I believe that in this world man is the *summum bonum*, the one to whom all other things and living creatures must be subordinate. His good comes first because he is the apex of creation, and for him and his good all things were created.

Only those who are totally ignorant of the matter (perhaps wilfully so) can charge that there is cruelty in vivisection. Not only is animal experimentation conducted humanely, but it is never carried on by irresponsible men out of curiosity or for the purpose of affording amusement. There is always an ulterior purpose, and this purpose is the acquiring of some information intended to overcome a recognized physical evil. There

is no more inhumanity in physiologic experimentation, in skilled hands, than there is in the ruthless destruction of dog life in the pound; perhaps not as much. Dogs, just as strongly as human beings, love life and cling to it as tenaciously as do their masters. The destruction of a dog's life just because the animal is homeless or unwell and uncared for is just as inhumane as would be the ruthless ending of a human life for the same inadequate cause. Even dogs recognize the value of a life, human or animal, and there are innumerable records of dog heroism, manifested solely for the very purpose of saving life.

There can be no controversy as to the truth of the assertion that vivisection has yielded many most important discoveries in the perennial conflict with disease. It would be impossible at this time to enumerate all of these great advances in preventive medicine that have resulted from the participation of dogs and other animals in physiologic experimentation. Someone has mentioned recently only a few of the notable conquests of disease, human and animal, that have resulted from these laboratory studies. I quote:

"Experimentation on dogs resulted in the discovery of the insulin treatment, by which hope was brought to many thousands of once helpless diabetics; it took the horror of inevitable fatality from parathyroid tetany, a terrible disease; it solved the mystery of the hookworm and led to the finding of an effective remedy for both dogs and men afflicted by this devitalizing parasite; it enabled physicians to bring Addison's disease under control; it taught science most of what it knows about the effect of drugs on heart action, and about dropsy and kidney disease; it developed the technic of measuring blood-pressure; it opened up new possibilities for the resuscitation of those apparently lifeless in case of drowning, coal-gas and cyanide poisoning, and electric shock. The items of our indebtedness to the use of dogs in the laboratory could be multiplied, but surely enough has been said to convince the open mind that arbitrary interference with such research would be a crime against humanity."

Could dogs reason as men do, and could they appreciate the inestimable good that has followed in the wake of vivisection, could there be any doubt as to their concurrence in the value of the practice? When will this foolish and unreasonable antagonism to vivi-

section, vaccination and the other medical and surgical investigations on animals for the good of mankind come to an end?

W. A. NEWMAN DORLAND, M.D., F.A.C.S.
Chicago, Ill.

[We cannot agree with Dr. Dorland that this world was created by and for man. We believe that all forms of life have a use, value and purpose of their own, wholly apart from humanity. Man is, however, at the present time, the highest manifestation of life on this planet, and as such is entitled to eminent consideration of his conservation and welfare, in the same way that the life of a woman in labor is to be preserved, if necessary, at the expense of that of her unborn child.

With all that he has to say regarding the antivivisectionists and antivaccinationists we are in hearty and enthusiastic agreement. Everyone who reads these words should be active, on every practicable occasion, in spreading the truths set forth by Dr. Dorland, so that the deplorable fog of ignorance which underlies the hysterical and zoophyllic outpourings of these misguided enthusiasts may be dissipated.—Ed.]

Oral Immunization of Human Beings Against the Pneumococcus*

FOLLOWING the ingestion of pneumococcus vaccines, about 75 percent of individuals tested formed protective antibodies against Type 1, and about 60 percent against Type 2. For Type 3 there was insufficient data to make a satisfactory estimate, but the results are approximately the same as for Type 2.

Antibodies for Type 1 have been found in most of the serums examined 7 to 14 months after oral administration of the vaccine. The indications are that the duration is the same for the three types.

The protective substance appears promptly, being present within two to three days following six feedings.

The number of feedings has varied from 2 to 10. In one instance where two doses were given, antibodies were formed. In some cases ten doses elicited no response. A new set of feedings was followed by the appearance of protective substances in the blood of about 50 percent of such cases. It is estimated that a practical procedure would employ the pneumococci from 1,200 cc. growth per type on each of six to ten successive days, estimating the bacterial content at 10 per cc. The use of completely autolyzed cultures, which contain several times as much antigenic material as the bacteria present in an eighteen hour growth, would re-

duce proportionately the volume of broth to be handled.

So far, of the several forms in which the vaccine has been prepared, none has proved superior to the others. However, the impression remains that desiccated organisms, when not emulsified in water previous to administration, do not give such uniform results as other preparations. This opinion is based on the results of animal and human experiments.

The natural protective antibody against Type 1 has been found in fairly large amounts in ten percent of the serums examined, and in smaller amounts in twenty percent more; in the case of Type 2 the figures were 41 and 18 percent; for Type 3, 31 and 50 percent.

VICTOR ROSS, M.D.

Hamilton, Ont.

Nembutal and Avertin in Obstetrics*

MY TECHNIC in using analgesia in obstetrics is as follows: As soon as labor has definitely commenced, I give 6 grains (4 capsules) of Nembutal. Under this dose the patient sleeps for several hours. When she shows signs of waking I am notified by the nurse in charge, visit her, and after examining the progress of labor and the patient's condition, decide whether to repeat the Nembutal, 3 grains (2 capsules) or give Avertin (0.08 cc. per kilogram of body weight at term). After the previous administration of Nembutal, this dose of Avertin will carry the patient through four to six hours, whilst without it, it would only have the desired effect for from two to three hours. In very few cases is it necessary to repeat the Avertin. This technic I have found very successful. It does not throw too much strain on the busy practitioner; to the mother it is of great benefit; and I have never seen any ill effects on the child.

CECIL COGHLAN, M.D.

Sydney, Australia.

Trichinosis

IN 1906 I treated a case of trichinosis. My suspicions were aroused by edema of the lower eyelids and the presence of reddened papules, measuring about $\frac{1}{4}$ inch at the base, which appeared on the skin and mucous membranes, together with pains in the voluntary muscles.

I sent a specimen of the patient's blood and a cutting from one of the papules to the State Board of Health for confirmation of the diagnosis, but before the report (which agreed with my opinion) was received, a pronounced

*J. Immun., Sept., 1934.

*Brit. J. of Anes., July, 1934.

case of cystitis developed for which I gave the patient one grain of methylene blue every three hours. A decided general reaction followed this medication and the patient recovered promptly.

I reported this result to the *Journal of the A. M. A.*, but they returned the report to me, with the statement that methylene blue is a specific remedy for trichinosis.

In the belief that this property of methylene blue is not generally known, I am reporting this case, in the hope that it will prove helpful.

H. C. R. NORRIS, M.D.

Kelso, Wash.

The Advertising Pages are part of what you pay for. Use them!

Causes of Reactions Following Intravenous Injections*

AMONG the many theories advanced as to the cause of reactions are:

1.—*Chemically impure dextrose* and sodium chloride may give reactions, but the reactions do not constantly occur.

2.—*Rubber-tubing*. This is probably only a casual factor, as injections have been given with the proper distilled water, which has been boiled with fresh rubber corks until it smells of rubber, but still without reactions.

3.—*Impurities from glassware*. Impurities may be absorbed from soft glassware used in the still to collect the water, or in the final containers.

4.—*Impurities from metals*. Copper, zinc or nickel should not be used in the condensers of the still, as these metals may be absorbed and give reactions. Block tin is O.K., as is also hard glass.

5.—*Temperature of the solution*. The temperature, in itself, will not cause reactions between 20° C. and 42° C. If solution is too hot, the patient complains of burning at the site of injection, and solutions below 20° C. cool the blood too much. The best temperature is between 100° and 110° F. at the vein.

6.—*Improper sterilization*. Dextrose sterilized at too high a temperature will caramelize, which sometimes causes severe reactions.

7.—*Foreign bodies in solution*. If gauze or cotton plugs are used, particles may become detached and drop into solution. It has also been shown that, in breaking ampules, fine pieces of glass are sometimes found in the solution; as many as 200 pieces have been found, and these usually are small enough to go through a 20-gage needle.

8.—*Rate of injection*. There is no uniformity or standard as to what constitutes a slow or fast rate of injection; slow might be anywhere between 2 cc. and 60 cc. per min-

ute. Reactions are not likely to occur at rates of 1,000 cc. per hour or any slower speed.

9.—*Low-grade filter paper*. Poor paper may contain starch bodies and loose fibers, which might give reactions.

10.—*Individual susceptibility to dextrose*.

Many of the above causes are important and should be taken into consideration; however, by far the most important are the following causes:

11.—*Contaminated distilled water*. As early as 1923, Florence Seibert, in the *American Journal of Physiology*, called attention to a substance commonly found in ordinary distilled water that produced fever. This was called pyrogen. Pyrogen is a protein derived from a certain group of water bacteria, described by Jordan as Groups X and XI of river bacteria. It is soluble, filterable and resistant to boiling. The presence of large numbers of other bacteria does not produce pyrogen nor render the water pyrogenic. This substance readily passes over with the distillate in an ordinary still, unless a water-spray trap is used. Repeated ordinary distillation fails to remove it, as does sterilization or passing it through a Birkefeld filter. A single proper distillation, with a water-spray trap, will, however, remove it completely.

As the properly distilled water may be easily contaminated and develop pyrogen rather quickly, it is important that the water be sterilized and sealed immediately after distillation, when it will keep almost indefinitely. Rademaker confirmed this work in 1930, in *Annals of Surgery*.

12.—*Hydrogen ion content*. It has been shown that solutions of an alkaline pH give more reactions than those of acid pH. Normal distilled water is slightly on the acid side. The alkaline solutions that gave reactions were buffered to a low pH and still gave reactions. Non-fever-producing acid solutions were then buffered to high pH without giving reactions, proving that the pH in itself did not cause the reactions. The alkaline impurities that caused the high pH were proved to be the pyrogen bodies. This again proves the importance of the pyrogen.

Elimination of the Causes

1.—Use only chemically pure drugs, or at least U.S.P. standards.

2.—Use only pure gum corks and tubing and, if new, wash with soap and water and rinse with distilled water and then soak in four-percent sodium hydroxide solution for one hour. Wash thoroughly and soak in distilled water before sterilizing. No tap water should be used after the original washing; then only pyrogen-free distilled water.

3.—Use only hard glassware—Jena or Pyrex.

**Journ.-Lancet*, Feb. 1, 1934.

4.—The still should be of block tin or glass-lined.

5.—Give solution at from 100° to 110° F. at the vein. About 120° F. in the container will usually be the right temperature at the vein.

6.—Dextrose solutions, properly prepared and filtered at least five times through French filter paper, are autoclaved without a vacuum for forty minutes, at five pounds pressure. High pressures, and therefore temperatures, cause caramelization. Saline solutions can be autoclaved without vacuum for 20 minutes, at 15 pounds pressure, if desired, or treated the same as the dextrose.

7.—Cotton or gauze plugs should not be used in flasks unless part of the plug is covered with unlaquered cellophane paper. When glass ampules are used, allow a little time to elapse after opening the ampule, to let the glass particles settle in the bottom.

8.—Never inject faster than 5 or 10 cc. per minute. Concentrated solutions should be injected slower than more dilute ones.

9.—Use only high-grade filter paper.

10.—Individual susceptibility is fortunately very rare and I know of no practical method to eliminate it.

11 and 12.—Use only pyrogen-free distilled water that is sterilized fresh from the still. Use a water-spray trap in the still. Test for pyrogen. The test is as follows:

Heat 100 cc. of distilled water to the boiling point in a clean pyrex beaker that has been rinsed in the distilled water; acidulate with 10 cc. of 10-percent sulphuric acid; then add 0.1 cc. of twentieth-normal (N/20) potassium permanganate solution and continue boiling for ten minutes. The faint pink color should remain in the solution if no pyrogen is present. If there is any pyrogen present, the color will disappear, as pyrogen is a reducing body.

KENT E. DARROW, M.D.

Fargo, N. D.

Intravenous Injections and Pyrogen-Free Water

It would seem to me that a physician should know something of the fundamentals of pharmacodynamics before he attempts any method of therapy. This thought is best explained in a discussion of pyrogen-free water for intravenous injections. Common sense is applicable here. The preparation of solutions, both with regard to the agents employed and the solvent, requires careful chemical, biologic and bacteriologic consideration. Also, the improper use of properly prepared solutions must be guarded against.

Dr. Arnold E. Osterberg, Section on Clinical Biochemistry, The Mayo Clinic, has prepared a pamphlet, "The Preparation of Solutions

for Intravenous Use," which covers the subject. The pamphlet was prepared for use at The Mayo Clinic and serves its purpose in a most practical manner.

A great deal has been written concerning the dangers of intravenous medication, by such men as Hanzlik and his associates, *ad nauseam*. *Archives of Internal Medicine*, October, 1923, carried an article on "Blood and Symptomatic Changes Following the Intravenous Administration of a Variety of Agents and Solutions," by Hanzlik et al, which is the most colossal piece of misinformation palmed off on an unsuspecting profession. After giving lethal doses of various medicaments to *morphinized, healthy dogs*, their parting shot is as follows: "The burden of proof rests on those who assert that intravenous injections are not injurious or dangerous."

I purchased a copper still from The Denver Fire Clay Company, of Denver, Colorado, ten years ago. It has a daily capacity of three gallons. The water is usually double distilled, occasionally triple distilled, and placed in sterile, rubber-capped containers. I use this water and supply many of my confreres. I have had no reactions due to water faults and none have been reported by those using this water.

In my entire career in the practice of intravenous therapy I have not had a death and not more than ten or twelve severe reactions. These reactions were due to errors on the part of the patients and to chemical impurities of drugs, but not to the solvent or technic. For this reason, I am convinced that many accidents attributed to pyrogens were hypothetical.

W. FOREST DUTTON, M.D.

Amarillo, Texas.

Tuberculosis in General Practice*

ANTI-TUBERCULOSIS propaganda and the development of specialists in tuberculosis have produced an apathy on the part of many doctors toward this disease. The family doctor thinks that he no longer sees the cases as he used to. Now they are likely to be recognized and segregated by school physicians, industrial physicians, life insurance examiners, or by some special agency designed to combat the spread of the disease.

Most cases are treated, while the disease is active, by specialists in special hospitals. The result is that the general practitioner has lost interest in this subject. He has grown careless in the art of history-taking and physical diagnosis, and has washed his hands of the treatment of tuberculosis. This is an unfortunate state of affairs, for the general practitioner, in spite of the trend of the times,

**Ann. Int. Med.*, Aug., 1933.

should be as keenly alive to the clinical problems of tuberculosis as ever. If he is a good doctor, his patients and their families will always eventually return to him for advice, no matter through what special hands they may pass on the way, and he remains their court of last appeal. If he is to give sound advice in regard to tuberculosis, he must be familiar with it.

Tuberculosis often shows up unexpectedly in young people supposed to be perfectly healthy and with symptoms simulating an acute respiratory infection or a sudden hemoptysis. Cases of this type are always at first seen by the family doctor.

Pulmonary tuberculosis is still so common a disease as to be ever-present, and general practitioners are seeing it frequently, perhaps failing to recognize its significance.

REGINALD FITZ, M.D.

Brookline, Mass.

Look for **THE LEISURE HOUR** among the advertising pages at the back.

Practical Electrocardiographic Diagnosis*

MANY physicians have the impression that electrocardiography is some sort of an occult science, so complicated and difficult to understand that it is useless to try to make any regular use of it in their practices. This is a wholly mistaken idea, as the principles of this procedure are so relatively simple and the information gained from it so important, that it ought to be in far more frequent and regular use than it is.

The discovery of heart disease is *not* equivalent to signing the patient's death warrant, nor to condemning him to lifelong invalidism. Moreover, it is just as ridiculous to say "heart disease," without qualification, as it would be to say "lung disease." Cardiac maladies are of many kinds, and must be differentiated and understood before we can give these patients adequate management.

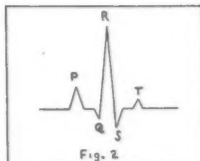
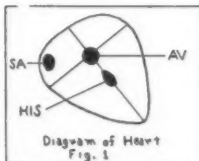
The eight principal causes of heart disorders are shown below, with the approximate percentage of cases due to them in parentheses.

- 1.—Rheumatic valvular disease (30%)
- 2.—Hypertension (25%)
- 3.—Arteriosclerosis (20%)
- 4.—Pulmonary disorders (asthma, etc.) (10%)
- 5.—Hyperthyroidism (goiter) (10%)
- 6.—Syphilis (10%)
- 7.—Congenital factors (1%)
8. Bacterial infections (2%)

We must remember that any particular patient may have more than one of these factors in operation.

The "pacemaker" of the normal heart beat

*Abstract (by G. B. L.) of a talk before the Medical Round Table of Chicago, Dec. 11, 1934.



is the sino-auricular node (See SA, Fig. 1), but two other principal sources of contraction impulses are the auriculo-ventricular node and the bundle of His (see AV and HIS, Fig. 1). We must remember, however, that every cell in the heart has independent irritability for contraction and may, like a communist, "start something" out of turn.

When a disorder of the cardiac rhythm develops, it may be due to some trouble with the sino-auricular node; or the abnormal impulses may come from the auriculo-ventricular node or the bundle of His; or some "communist" cell may be giving the inappropriate orders. Moreover, the normal impulses may be blocked at some point ("heart block"). Electrocardiographic study tells us where the pathologic impulses are originating or where the blocking is taking place.

Paroxysmal auricular tachycardia is merely a series of extra systoles, originating pathologically. The heart rate may be 200 a minute.

Ventricular tachycardia means coronary thrombosis and infarction.

In *sino-auricular block*, a heart beat is missed now and then.

In *auriculo-ventricular block* (Stokes-Adam's disease) the beat of the auricles and ventricles is wholly unrelated, and the ventricles sometimes stop beating. If this happens, the injection of epinephrin into the ventricles will start them going again.

The electrocardiographic record of one complete heart beat is shown, roughly, in Fig. 2, with the conventional letters used to identify the waves. These letters are often confusing to beginners. It will be much simpler if we think of the P wave as the *auricular wave*, and the QRS complex and the T wave as the *ventricular waves*.

The three "leads" shown in electrocardiograms are merely three *views* of the cardiac impulse, as a roentgenologist may take antero-posterior, lateral and diagonal views of the chest. The picture shown in Lead II is generally most reliable for diagnosis.

An inverted T wave means *myocardial damage only*. The location, extent and cause of the damage must be determined by clinical study. It is frequently the result of coronary thrombosis, but may be due to diphtheria, syphilis or other conditions.

When the T wave turns upside down, it does not do this suddenly, but gradually, so that the inversion may not be complete for

from two to ten days after a coronary accident. As healing of the damage takes place, the T wave returns, gradually, to its normal position. Thus the progress of the case can be followed by repeated electrocardiograms.

Many physicians appear to expect too much of the electrocardiographer. This procedure is not a substitute for clinical study, but a supplement to it, and the electrocardiogram, like the roentgenogram, is just as valuable to the clinician as the man who makes and interprets it.

CHAUNCY C. MAHER, M.D.

Chicago, Ill.

Intravenous Use of Methylene Blue in the Treatment of Cyanide and Carbon Monoxide Poisoning*

IN treating cyanide and carbon monoxide poisoning, our method is as follows: The dye used is the product marketed as "Methylene Blue, U.S.P. (medicinal)," and it is administered intravenously, with the usual precautions, in 50 cc. doses, in a one-percent solution, either aqueous or in an isotonic solution of sodium sulphate. Both the aqueous and the sodium sulphate solutions of methylene blue are stable and will keep, in sealed ampules, for long periods of time.

The dye and the sodium sulphate should be of U.S.P. degree of purity and the solutions should be filtered before sterilization.

The uses of solutions of methylene blue in the treatment of cyanide and carbon monoxide poisoning is an adjunct and not the sole measure to be instituted. Gastric lavage, when the poison has been taken by mouth, artificial respiration, inhalations of oxygen and carbon dioxide, cardio-respiratory stimulants, supportive and eliminative therapy as indicated, are certainly not to be neglected or omitted.

J. C. GEIGER, M.D., and J. P. GRAY, M.D.
San Francisco, Cal.

Instructions for Syphilitic Patients

THE difficulty in obtaining the cooperation of syphilitic patients in carrying out the extensive treatment necessary for a cure is fully appreciated by most physicians. At best, some will become discouraged and stop treatment.

The physician can obviate some of these difficulties by giving to every patient who comes to him with early syphilis a concise and accurate description of the disease and of the complications which are liable to result if treatment is neglected. This information may be embodied in a printed or mimeographed pamphlet, which should also convey the following instructions:

*Southern Med. J., September, 1934.

The earlier in its course syphilis is thoroughly treated, the better are the results; it is, therefore, of the utmost importance to your future health and happiness that you have your disease promptly and skillfully treated.

One of the difficult things about syphilis is that to cure it often requires a long time—2 years or more. Within 2 or 3 weeks after you begin treatment you may have none of the symptoms of syphilis, and you will, therefore, be tempted to neglect further treatment. This is the great mistake which many persons with syphilis make. To insure future safety, treatment must be continued long after all evidence of the disease has disappeared. For your own good you must see to it that you do not neglect your treatment after the first few months.

Syphilis is a contagious disease and spreads only by contact with the virus or poison. The parts of the body which most often carry the virus are the genital organs (privates) and the mouth. To avoid spreading the disease you must be careful in your association with others. If you are careful, you are not dangerous to others.

Obey These Instructions

If you have any sore on your genitals, no matter how small, or if you think you have syphilis, consult your doctor. Do not under any conditions rely on the "blood medicines" which are said to eradicate syphilis; and do not be caught by quacks, who try to get your money by promising to cure quickly. Do not let druggists prescribe for you; they are not qualified to treat syphilis.

Do not hesitate to tell your doctor or dentist of your disease. Later in life, if you should get sick at any time, you must tell your doctor that you have had syphilis, since this fact may furnish a clue to the treatment upon which your cure will depend.

Live temperately and sensibly. Do not go to extremes in any direction in your habits of life.

Try to get a reasonable amount of sleep—8 hours is the amount needed by the average person. As a safeguard to others sleep alone. You should neither smoke nor chew tobacco.

Do not use alcoholic liquors. All experience shows that drinking—even moderate drinking—is bad for syphilis.

Take good care of your teeth. Brush them two or three times daily. If they are not in good condition, have them attended to by a dentist; but when you consult him, tell him that you have syphilis.

Do not have sexual intercourse until you are told by your physician that you are no longer contagious. It will interfere with the cure of the disease, and it is criminal, for it is liable to give the disease to your wife.

You must not marry until you have the doctor's consent, which cannot be properly given until at least 2 years have passed after cure seems complete. If you do, you run the risk of infecting your wife and your children with syphilis.

Early in the course of syphilis, while it is contagious, there is great danger of infecting

other people by the mouth. Because of this danger, do not kiss anybody; especially do not endanger children by kissing them.

Do not allow anything which has come in contact with your lips or has been in your mouth to be left lying around so that anyone can use it before it has been cleaned. This applies to cups, glasses, knives, forks, spoons, pipes, cigars, toothpicks and all such things. It is better to use your own towels, brushes, comb, razor, soap, etc., though these are much less likely to be contaminated than objects which go in your mouth.

If you have any open sores (you probably will not have any after the first week or two, if you are treated), everything which comes in contact with them should be destroyed or disinfected.

To live up to these instructions will require only a little care until you get used to them; after that it will be easy. If you do live up to them, there is a good prospect that syphilis will not do your health permanent harm nor cause injury to others; and you will have the satisfaction of knowing that, after your misfortune, you have acted the part of an honest man in your efforts to overcome it.

A physician who accepts a case of early syphilis for treatment should see, as far as he is able, that the patient does not discontinue treatment because of lack of funds. Should the patient, during the treatment period, be rendered unable to meet the cost of adequate medical care, it is the duty of the attending physician to see that the requisite amount of treatment is received at a clinic at a nominal cost or without charge.—*Venereal Dis. Information*, Oct., 1934.

Look for **FACTS AND COMMENTS** among the advertising pages at the back.

Surgical Treatment of Facial Palsy*

IN 1930, Sir Charles Sallance invited me to collaborate with him in some animal experiments to discover, if possible, some method by which the operative treatment of facial palsy might be improved. We finally demonstrated that a direct repair of the injured facial nerve might be made by the use of auto-plastic nerve grafts. The facial movements were restored without any associated movements; moreover, emotional response, as well as voluntary control of the facial muscles, was restored. In human patients, some of the earlier cases at present have almost perfect restoration.

During the past six months, I have endeavored to improve the technic by using, for graft material, transplants from nerves which had been severed and allowed to remain *in situ* until they had undergone certain degenerative changes. The results were amazing. In from two to four weeks, when degenerated grafts were used, responses were

obtained which had taken as many months to accomplish when fresh grafts had been employed.

ARTHUR B. DUEL, M.D.

The Treatment of Pneumonia*

IN the treatment of pneumonia, the type of bed is important. If it is more than three feet wide, the nursing of the patient is unnecessarily difficult.

The temperature of the room is usually kept too high. It should be maintained, evenly, at 70°F., so, if there is no thermometer in the room, it is best to tell the family to keep it at 60 degrees, and then it will be about right. If bronchitis complicates the pneumonia, it is especially necessary to keep the temperature moderate and even, especially at night.

A pleasant and cheerful atmosphere is very important; but this does not mean that well-meaning friends should be allowed to come in, to "cheer the patient up."

The clothing should be light and easily turned back, for examinations or sponging, without disturbing the patient. A pajama jacket can be slit up the inner seams of the sleeves and across the chest and secured with tapes. The trousers can be treated in a corresponding manner. The bed clothing should be warm, but light in weight.

As the pneumonia patient will die or be on the road to recovery in eight days, the diet should be light in quality and quantity, with plenty of fluids (milk, if given, should be diluted) and such other foods as he likes and digests well, but not too much.

Routine sponging, with tepid water, every four hours when the patient is awake, is decidedly helpful.

Oxygen, if given with a tent or properly managed nasal catheter, and given early, is valuable. The funnel method is useless. The relatives may need reassuring, as many people look upon the use of this gas as a precursor of the hearse.

Felton's mixed serums, Types I and II, have proved their worth in epidemic pneumonias of these types. Two or three doses of 20 cc., intravenously, should be given on successive days. Sporadic cases are usually of Types III and IV, and the serum is useless in such cases.

Bleeding is often helpful for lusty individuals in the early stages.

Sleep is essential. Ten (10) grains (0.65 Gm.) of chloral with 20 grains (1.3 Gm.) of potassium bromide will generally secure it, but morphine should be employed, if necessary, with extreme caution.

Antiphlogistine is preferable to a poultice, when required. Severe pain may be relieved

*Quart. Bull. Milbank Memorial Fund., Jan. 1933.

*The Lancet (London) via Bloodless Phlebotomist, Vol. VIII, No. 2.

by injecting 100 cc. of air into the pleural cavity with a pneumothorax apparatus, or by diathermy. Morphine should be a last resort. Distention is usually due to over-feeding. Use a rectal tube for relief. Hyperpyrexia should be treated by sponging, not by antipyretics.

If the cardiovascular system seems to be in trouble, the intravenous or rectal administration of 200 to 300 cc. of 5-percent dextrose in physiologic salt solution may be very helpful.

Decide early where the patient is to be treated, and do not move him after the third day, except in an imperative emergency. The campaign of treatment should be mapped out at the start, and followed as closely as is practicable.

F. H. YOUNG, O.B.E., M.D., M.R.C.P.
London, Eng.

May I say that I think CLINICAL MEDICINE AND SURGERY is unique in that it is edited by one who is not only a physician but a writer and a poet. It is humanly edited, and that cannot be said for many medical magazines.—O.C.J.W., Canada.

The Endocrine Glands in Relation to Cancer*

FROM an extensive experimental study of endocrine glands, since 1912, including the relation of iodine to their effective action and to the dispersal of cholesterol, and the mobilization and distribution of calcium, I am convinced that the value of endocrine therapy in cancer is, in part, due to the ability of such extracts to mobilize elements that cause the release of cholesterol, lecithin and lactic acid, and inactivate amino-acids and unsaturated lipids known to favor abnormal growth.

Especial attention is directed to the long-known but unappreciated fact that ovariectomy, which relieves pregnancy osteomalacia, probably prevents and ameliorates mammary cancer by permitting a conservation of protective calcium and iodine.

The fact that hyperactive thyroids are slowed down by insulin, is suggested as an explanation of the benefits reported by clinicians who have used insulin, augmented by calcium, in certain types of cancer.

The correlation between cancer and goiter is, for the first time, explained on the basis of chemical imbalance, and the action of numerous disturbing factors, such as radiant energy, foods, emotions, internal parasites and unsaturated hydrocarbons, is demonstrated to involve similar chemical processes, by inducing

endocrine hyperactivity, followed by endocrine exhaustion, that permits elemental imbalance and favors new growths. The release of iodine by chlorine, according to the law of halogen displacement, and the rôle of unsaturated sterols and hydrocarbons, seizing iodine, are the simple chemical principles chiefly involved.

F. E. CHIDESTER, A.M., Ph.D.
Ann Arbor, Mich.

Dilaudid in Labor and Post-Operatively*

DILAUID was given, alone and in various combinations, to 68 obstetric and 71 surgical patients, with good results.

In labor, the combination of Dilaudid, grain 1/32, and scopolamine, grain 1/200, was very effective in producing a semi-narcosis within a few minutes, especially so if preceded one to three hours by one of the barbiturates. The relaxation produced by Dilaudid was responsible for the better quality of uterine contractions, and in no case was it responsible for prolonging labor. Nausea was of infrequent occurrence, and there were no cases of asphyxia of the newborn attributed to Dilaudid.

Rectal suppositories containing 1/24 grain of Dilaudid were inserted at the close of the third stage of labor for "after pains." Patients were more comfortable and had less nausea and itching than with the opium suppository which had formerly been used. There was no tendency toward a delay in emptying the bladder.

With surgical patients there were fewer complaints of post-operative gas pains, nausea and vomiting, and a smaller percentage of patients required the insertion of the rectal tube or enemas for distention, or the injection of surgical pituitrin.

T. W. WEUM, M.D., F.A.C.S.
Minneapolis, Minn.

Period of Infectiousness in Syphilis

MY experience with syphilis has been limited and all the cases I am now treating were infected from eight to twenty years ago.

The textbooks state that a man who was infected with syphilis five years or more ago, even if untreated, is probably not infectious, nor will he transmit the disease to his children.

But how about a woman? Is she also non-infectious after five years or more? The textbooks say that a woman with untreated syphilis will transmit it to her children throughout the reproductive period. In fact

*Med. World, July and Aug., 1934.

*Journ. Lancet, Nov. 15, 1934.

I have seen this happen where the mother appeared to be in good health.

For example, a widow of 60 years, in apparently good health except for "rheumatism" in her legs, goes to a physician, who finds that her Wassermann reaction is 4 plus and that she is suffering from tabes, although the primary and secondary symptoms of her disease were so mild that she never even suspected her condition. If she had married, during the past four or five years, a man free from syphilis, would she have infected him? I have searched the textbooks for the answer to this question, but have been unable to find it.

J. E. BURNS, M.D.

New Dennison, Ill.

[In order that infection with syphilis may take place, it is necessary that some part of the body of a well person, upon which there is a break in the continuity of the skin or mucous membranes, shall come in contact with some part of the body of the syphilitic person, upon which there is an open lesion containing spirochetes.

As a general rule, people in the tertiary or latent stage of syphilis do not have open lesions, and therefore they are not generally infectious, but it is impossible to make a hard and fast statement of this sort, because it is possible for open lesions to appear without the patient or the physician being aware of that fact.

In the specific case of the woman of 60 who was suffering from tabes, it is highly improbable that she would have been infectious, if she had married again, though it is quite possible that if she had become pregnant she would have transmitted the disease to her child, as it is now the consensus that congenital syphilis occurs in babies only when the mother is infected with that disease, no matter what the condition of the father may be.—Ed.]

Evipal Soluble Intravenous Anesthesia*

I HAVE employed Evipal Soluble anesthesia in 50 cases, including 37 cases of tonsillectomy, drainage of frontal sinuses and turbinotomy, a number of minor surgical operations such as the removal of cysts, the opening of abscesses, cystoscopy, sigmoidoscopy, etc.

With the first 15 cases, the technic recommended by the manufacturer was followed. With subsequent cases, observation of a constant rate of injection was not followed, as it was found that a deeper and better anesthesia was obtained by injecting the full 10 cc. in forty-five to sixty seconds, thereby insuring a full fifteen to twenty minutes of perfect anesthesia.

*Journ. Roy. Army Med. Corps., July, 1934.

Evipal Soluble is an excellent anesthetic for operations that can be completed in fifteen minutes with certainty. The rapid onset of the anesthesia, the simplicity of administration, the absence of any after-effects, and the great saving of time in induction, should make this most recent barbiturate useful to dental surgeons, gynecologists and surgeons in military or civil practice, where a short anesthesia is required. In no case, in my experience, has there been any serious respiratory depression, and the patient's color has not altered. There are no unpleasant after-effects and the drug is rapidly detoxicated by the liver. There is no disturbance of the patient's mental state after the operation.

K. P. MCKENZIE, M.D.

Netley, Hampshire, Eng.

The Advertisements are NEWS! Read and use them.

Stercoral Perforation of the Rectum (A Case Report)

THE following case of intraperitoneal perforation of the rectal wall by the impaction of a fecal mass presents some unusual features which appear worthy of reporting.

F. D., aged 64, a laborer, entered hospital complaining of severe abdominal pain, which commenced thirteen hours previously. The pain, at first situated in the region of the umbilicus, was soon referred to the left iliac fossa and was later followed by three bouts of vomiting.

For the past twelve months the patient had complained of dyspeptic symptoms, most severe soon after the taking of food. The bowels had been regular until about three months before admission, since which time irregular attacks of diarrhea were experienced. Complete constipation, however, occurred for three days before the onset of the present illness.

The patient, whose temperature was 99°F., and pulse rate 80, had an anxious expression and a furred, dry tongue. There was marked abdominal rigidity and acute tenderness, particularly in the epigastrium. Auscultation of the abdomen indicated complete absence of peristaltic movements, but the heart sounds could not be heard.

A diagnosis of general peritonitis, possibly from the perforation of a peptic ulcer, was made and an immediate operation performed under general anesthesia. On opening the abdomen by a right paramedian incision, no gas was detected, but the colon was dilated and the abdominal cavity was full of free fluid, suggestive of virulent coliform peritonitis. The appendix, however, was normal.

Further examination of the pelvis, in an endeavor to ascertain the cause of the distension of the large intestine, revealed three

solid lumps of feces, each about the size of a golf ball, in the recto-vesical pouch. Just above the peritoneal reflection from the anterior wall of a greatly dilated rectum was a perforation (about two inches in length and one inch in width), through which a mass of hard feces was partly protruding. The bowel wall was extremely thin at the edges of the opening, giving the impression of necrosis having been produced by pressure of the incarcerated contents: these were so large and so firmly impacted as to completely occlude the intestinal lumen. The colon showed no growth and no diverticula were present.

After removal of the feces and repair of the rectal wall by catgut sutures, a temporary colostomy was performed and the pelvis drained by a tube.

The patient made a good recovery and, except for an attack of cystitis in the second postoperative week, convalescence was uneventful. After closure of the colostomy, radiologic examination showed no structural abnormalities of the alimentary tract.

Interesting features of this case are: Irregular diarrhea, presumably spurious in nature, due to stercoral irritation, preceding by three months the onset of absolute constipation. At operation the rectum was found to be perforated by a large fecal mass, which also caused intestinal obstruction.

N. M. MATHESON, F.R.C.S.

London, Eng.

Correspondence Re Hydrochloric Acid

DURING my recent illness, my correspondence was not taken care of in a proper way, and letters from a number of readers of "C.M.&S.," in connection with my article in the August, 1934, issue, on page 389, have been lost or mislaid.

If the physicians who wrote to me regarding the use of intravenous injections of hydrochloric acid in the treatment of pelvic cellulitis will try again, I shall be glad to correspond with them on this subject.

WILLIAM I. HOWELL, M.D.

Lexington, Tenn.

Uterine Bleeding*

AT the ovarian dysfunction clinic of the Massachusetts General Hospital, nearly all patients complaining of abnormal uterine bleeding are treated with Antophysin, being given from 500 to 1,000 rat units, intramuscularly, over a period of ten days. Frequently the treatment causes a local reaction in the arm, and occasionally a general systemic reaction with fever, chilly sensations,

etc. While some patients object to the treatment, most of them do not, and by coming to the hospital every day or every other day they receive the entire amount.

The treatment is given, by preference, when the patient is flowing; but if the excessive flow occurs at normal intervals, the treatment is started ten days before the expected time for the catamenia. The response to treatment is occasionally extremely rapid (one or two days) and in others it is slow (ten to twenty days). More than 54 percent of good results were obtained in a group of 59 cases of the type once difficult to treat without radiation or surgery.

JOSEPH VINCENT MEIGS, M.D.

Brookline, Mass.

Verodigen in Cardiovascular Disease*

A clinical study of the therapeutic efficiency of Verodigen—the gitalin glucoside of digitalis—has been made upon five patients with established auricular fibrillation and one patient with auricular flutter, previously untreated with digitalis; two patients with regular sinus rhythm and advanced congestive heart failure; and fourteen patients with established auricular fibrillation, previously controlled with whole-leaf digitalis preparations or Digalen.

Verodigen was found to control the ventricular rate in established auricular fibrillation; to produce clinical improvement, with marked diuresis, in patients with congestive heart failure and regular sinus rhythm; and to produce, in the electrocardiogram, S-T interval and T-wave changes, characteristic of digitalis action.

Careful clinical observation revealed that 1/240 grain of Verodigen is equivalent to one cat unit (approximately 1½ grains of powdered digitalis leaves). The total dose necessary for optimum digitalization varied from 1/10 to 1/16 grain, administered over a period of five to six days. The most frequent adequate maintenance dose of Verodigen was 1/240 grain daily.

Toxic effects from overdoses with Verodigen were similar to those produced by whole-leaf digitalis preparations.

The potency of Verodigen demands careful observation in its administration, especially with patients who have recently been taking any digitalis preparation.

W. T. STROUD, M.D., F.A.C.P.,
A. E. LIVINGSTON,
A. W. BROMER, M.D.,
J. B. VANDER VEER, M.D.,
G. C. GRIFFITH, M.D.

Philadelphia, Pa.

*New England. J. Med., Aug. 16, 1934.

*Ann. Int. Med., Dec., 1934.

DIAGNOSTIC POINTERS

Pupillary Reactions in Syphilis

THE expressions "pupils peculiar to syphilis" and "Argyll Robertson pupil" are not synonymous in common parlance, as they would be if strict attention had been paid to the original description.

The pupils peculiar to syphilis have the following characters: (1) The signs are present in both eyes; (2) the pupils are small; (3) the light reflex, direct and consensual, is absent—the pupils do not contract with increased illumination or dilate when they are shaded; (4) the contraction of the pupils on convergence-accommodation is prompt and complete; when the act of convergence ceases, the pupils regain their resting size at once; (5) the response to mydriatics is slow and incomplete; (6) useful vision is present.

If these criteria are all satisfied, the patient under examination is a syphilitic.—W. J. ADIE, M.D., F.R.C.P., *The Practitioner*.

Protozoal Infestations of Children

IN a group of 42 children, selected at random from an orphanage in Oregon, 71 percent were found to have infestations of intestinal protozoa. The most frequent parasites were the *Endameba coli* (64.2 percent), the *Endolimax nana* (35.9 percent) and the *Giardia lamblia* (19.0 percent). It is suggested that such protozoal infestations are comparatively common in the Northern Pacific States.—W. B. OWEN, in *Northwest Med.*, Apr. 1932.

Children's Parties

THE proper time and place for children's parties are the summer and sunny outdoors. Most others offer health risks; crowded places of any kind are dangerous for children.—Dr. H. B. MILLS, of Philadelphia, in *M.J. & Record*, Mar. 16, 1932.

The Parathyroid Gland

THE parathyroid glands are vital organs. They function by producing an internal secretion which is the chief regulator of calcium metabolism; the control of the level of blood calcium is one of their chief functions. The primary action of the hormone is probably upon the connective tissue element of bone; this involves the control of both osteo-

blastic and osteoclastic activity. The normal development of bone and the maintenance of its normal state must, therefore, be largely dependent upon the parathyroid glands.—Dr. J. B. COLLIP, of Montreal, in *Western J. Surg. Obst. & Gynec.*, Nov. 1932.

Coronary Occlusion

CORONARY occlusion may occur without pain and cause gross infarction. Study of the non-painful features of the condition gives our only clues to the diagnosis. Two of the many changes in the rate and rhythm of the heart beat—ventricular tachycardia and heart block—are of particular importance in prognosis and treatment.—Dr. S. MARX WHITE, Minneapolis, Minn.

Allergic Disease

FOR some years past, food allergy has been stressed as a cause of migraine.

In 130 private patients, one of whose major complaints was headaches, good results with the elimination of allergic foods occurred in 87 percent of 109 patients who gave good cooperation.—Dr. A. H. ROWE, of Oakland, Calif., in *J. A. M. A.*, Sept. 10, 1932.

Deformation of the Pupil as a Sign of Death

AN Italian physician, Tonelli, calls attention to a new sign of death. In a living person or one who is apparently dead, strong pressure, applied with the fingers to two or more sides of the eyeball, will not produce any modification of the round contour of the pupil. In a dead person, however, bilateral or multilateral pressure will deform the pupil.—Editorial in *J.A.M.A.*, Oct. 29, 1932.

Ocular Symptoms of Nasal Sinus Infections

ANY part of the eye or its appendages may become involved in either acute or chronic sinus infections. In the acute cases, more direct evidence is given and a more certain and quicker diagnosis may be made. The chronic cases require more careful and painstaking study before a definite diagnosis can be made.

The proximity of the eye and orbit to the accessory nasal sinuses calls for a close rela-

tionship between the ophthalmologist and the rhinologist. Patients are better for it and borderline cases are better understood. Chronically infected sinuses are difficult to eradicate and require a keen sense of judgment in knowing just what to do, and, unless kept under close supervision, eye symptoms may develop that go unrecognized and when recognized irreparable destruction of the eye has taken place and loss of vision follows.—**DR. L. J. GOLDBACH**, of Baltimore, in *Eye, Ear, Nose & Throat Monthly*, Nov., 1932.

I have been getting a great deal of good out of every number of *CLINICAL MEDICINE AND SURGERY* that comes to my office; more good, in many ways, than from professional journals that have a subscription price of twice that of "C.M.&S."—**L. M. M., M.D.**, New York.

Biliary Disease in the Etiology of Urticaria

OCCASIONALLY in the literature there are references to the association of urticaria and disease of the liver and gallbladder. In *Northwest Med.*, Aug. 1932, **Dr. C. G. Goss**, of Seattle, Wash., reports 2 personal cases in which urticaria was so closely associated with gallbladder disease as apparently to have the latter as its etiologic factor. The author leans to the explanation that the urticaria is due to secondary liver damage, which has interfered with one or more of the functions of the liver, for instance, the detoxifying function. In both his cases there was unquestioned evidence of liver damage.

Pneumonectomy

IF it becomes necessary to amputate an entire lung or pulmonary lobe, on account of abscess, bronchiectasis, etc., it is practicable to do so, without disturbing the cardiovascular system unduly. It is best to collapse the lung, by pneumothorax, before operation.—**DR. WILLIAM F. RINEHOFF**, Johns Hopkins Univ., Baltimore, Md.

Gall-Bladder Disease and Cardiac Symptoms

THE patient with gall-bladder disease, showing no characteristic symptoms, may show signs of early heart failure or angina pectoris. Cholecystography may be a great aid in distinguishing cases of this type. These patients, if properly prepared, stand surgery better than one would expect.—**DR. STEWART R. ROBERTS**, in *Ill. M. J.*, Nov., 1929.

Paresthesias of the Legs

PARESTHESIAS of the lower extremities are pathognomonic of arterial degeneration.—**J. E. R. McDONAGH**, in *Nature of Dis. J.*, Vol. II, 1933.

Arthritis or Neuralgia of the Shoulder Joint?

IN arthritis of the shoulder joint there is atrophy of the deltoid, supra- and infraspinatus muscles; the medial border is oblique, the capsule shrunk; the forearm cannot be placed on the back when flexed at a right angle.

In true neuralgia of the arm, the plexus and nerve trunks are sensitive to pressure; muscular atrophy is absent in radiating shoulder pains; extensive passive movements can be effected slowly by supporting the arm and following the slow subsidence of the spasm.—**DR. E. PLATE**, of Hamburg, in *Brit. J. Physic. Med.*, June 1932.

Congenital Heart Disease

IN congenital heart lesions, it is quite common to find the red blood cells numerous (9,000,000) and the hemoglobin percentage high (150 percent). Cyanosis is also common.—**DR. BERNARD MYERS**, London.

Pitting of the Finger Nails in Tuberculosis

IT has been claimed that pitting of the finger nails is to be observed in 100 percent of patients with active tuberculosis. Investigation, however, has shown that pitting is observed only in about two-thirds of such patients and that it is also found in a considerable percentage of non-tuberculous controls.—**Editorial**, in *J. A. M. A.*, July 16, 1932.

Blood in the Stool

ANY condition which makes blood appear in the stool must receive prompt attention and this symptom should never be disregarded, as it is often the only one available as a point of departure. Inflammatory conditions—proctitis, colitis, bacillary dysentery, especially the amebic variety—should be ruled out, or if found, treated at once, in order to make sure that we are not dealing with something else superimposed upon a seemingly benign condition. This, of course, is specially urgent in subjects of "cancer age."—**DR. J. F. MONTAGUE**, of New York, in *Internat. J. M. & S.*, May, 1932.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Medical & Dental Arts Bldg., Waukegan, Ill., is accompanied by a check for the published price of the book.

The end of true reading is the development of individuality.—RICHARD LE GALLIENNE.

Penrose: Mental Defect

MENTAL DEFECT. By Lionel S. Penrose, M.A., M.D., Research Medical Officer, Royal Eastern Counties Institution, Colchester. New York: Farrar & Rinehart, Inc. 1934. Price, \$2.50.

This book, which appears to be the best arranged, clearest and most truly scientific work on the biologic and sociologic aspects of mental subnormality which has yet appeared, is written from the standpoint of a biologist, rather than that of a psychiatrist, though it approaches the subject from the psychologic, as well as from the physical direction.

Modern and satisfactory techniques for the study of these cases are given in sufficient detail, and suggestions are made for a rational and practical classification of mental defectives, with descriptions of typical cases. The radical, palliative and preventive treatment is considered in Chapt. XV. An introductory chapter on the historical, legal and administrative aspects of the problem will help beginners in such studies, and so will the glossary at the end.

Here is a book which will be of great interest and value to physicians and to intelligent laymen who are concerned with the scientific problems of mental deficiency.

Blech and Lynch: Medical Military Tactics

MEDICAL TACTICS AND LOGISTICS. By Colonel Gustavus M. Blech, Medical Reserve Corps, U.S. Army, and Colonel Charles Lynch, Medical Corps, U.S. Army, Retired. Springfield, Ill. and Baltimore, Md.: Charles C. Thomas. 1934. Price, \$4.00.

Few Medical Reserve Corps officers today (even those who saw service during the World War) have any clear and broad idea of what such an officer might be called upon to do if he were ordered to active service in a national emergency. The details of the various duties which might fall to his lot (except, perhaps, those in which he has been specifically engaged under war or maneuver conditions) are practically a blank in his mind.

In this volume, two medical officers having long, honorable and practical experience of such matters, have set forth these details in such a direct and graphic way as to make

the reader see the situations discussed and enter into the game of solving the tactical problems presented, with the help of the four topographic maps which are a part of the appendix.

The first part deals with the theory and principles of war—a necessary background to all military studies; the second with the functions of the Medical Service at the front; the third with the special principles of the Medical Service in war; there is also an appendix containing technical notes, a bibliography, a glossary and the index.

Every sincere officer of the Medical Reserve Corps has his file of Tables of Organization, special instructions and other official publications, most of which are rather tasteless and unprofitable reading, unless he has a book like this to put a personal element into the subject and make it come alive.

Every Medical Reserve officer should add this book to his military library, if he has one; if not, it is almost a library in itself.

Stedman: Medical Dictionary

A PRACTICAL MEDICAL DICTIONARY of Words used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and Other Special Terms; Anatomical Tables of the Titles in General Use, the Terms Sanctioned by the Basle Anatomical Convention and Those Suggested by the Nomenklatur-Kommission; Pharmaceutical Preparations Official in the U.S. and British Pharmacopoeias and Contained in the National Formulary, and Comprehensive Lists of Synonyms. By Thomas Lathrop Stedman, A. M., M.D., Editor of the "Twentieth Century Practice of Medicine," of the "Reference Handbook of the Medical Sciences," etc. Twelfth, Revised Edition. Supplemented by New British Anatomical Nomenclature. Illustrated. Baltimore: William Wood and Company. 1934. Price, indexed, \$7.50; plain edge, \$7.00.

Stedman's Medical Dictionary is too well known to the medical and allied professions to require any elaborate encomiums. The fact that twelve editions have been required in the twenty-six years since its first appearance, testifies to its popularity.

Since the appearance of the eleventh edition, three years ago, more than a word a

day has been added to the medical nomenclature, so that this edition contains about 1,000 new titles, besides several hundred new sub-titles. This has necessitated the addition of 33 pages to the handsome, fabricoid-bound volume.

Dr. Stedman is a scholarly lexicographer and a punctilious etymologist, who deplores many of our present-day barbarous usages, and a study of these pages will give any medical man a better idea of how language is made, even though he may not decide to substitute *oophorectomy* and *scoleroiditis* for the more common terms, *ovariotomy* and *appendicitis*.

Stedman's Dictionary is worthy of a place in every medical library, even though (or perhaps because) a good many medical editors do not always agree with its author.

Irvine: B.C.G. Vaccine

THE B.C.G. VACCINE. By K. Neville Irvine, D.M., M.A., B.Ch. Oxon., M.R.C.S., L.R.C.P. Hon. Physician to the Henley War Memorial Hospital; Late Radcliffe Traveling Fellow; Late House Physician to the Children's Medical Division of the Bellevue Hospital New York City. London: Oxford University Press. 1934. Price, \$1.75.

There are few subjects in medicine about which such widely divergent views are held as the B.C.G. (Bilie Calmette Guérin) vaccine. In Germany it is strongly discouraged by the authorities, while in France it is subsidized by the state. The author has spent two years visiting clinics and laboratories in Europe and America, and reviews the work done there. He concludes that a certain increase of immunity against tuberculosis is produced in man by the B.C.G. vaccine, and that this vaccine should be given to children in tuberculous families, to supplement the existing measures.

Every physician dealing with tuberculosis should be informed regarding this vaccine. That information is now available here, in a compact form.

Reid: Osler

THE GREAT PHYSICIAN. A Short Life of Sir William Osler. By Edith Gittings Reid. London: Oxford University Press. 1934. Price, \$1.50.

This book tells, in an entrancing fashion, the fascinating story of the Canadian youth who became one of the greatest of modern physicians, whose fame rests, not upon research work, but upon the care of sick people, and who introduced a new system of clinical teaching to this country.

This popular edition, written in an easy and intimate style by one who was somewhat a hero-worshipper, is within the reach of every physician and medical student, so it should serve the excellent purpose of making a

greater number of readers familiar with the outstanding facts of a rare career full of devotion and high, unexcelled service to humanity, and of the unique and colorful personality of a man who received the highest medical honors of the English-speaking world and is generally regarded as the greatest clinical practitioner of modern times.

No medical library is complete without a "Life" of Osler; and those which are deficient in this respect can now have that defect supplied, easily and pleasantly.

Treves: Surgical Anatomy

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves, Bart. Ninth Edition, Revised by C. C. Choyce, C.M.G., C.B.E., B.Sc. N.Z., M.D., Edin., F.R.C.S. Eng., Professor of Surgery, University of London; etc. Illustrated. Philadelphia: Lea & Febiger. 1934. Price, \$4.00.

For half a century this classic has held its own as a text of surgical anatomy and a handbook of established surgical practice, anatomically correct and surprisingly inclusive. Its closely written text deals essentially with surgical anatomy, but it contains much clinical diagnosis and treatment, and points out the surgical dangers and pitfalls. The work divides the body into six regions and each is amply covered. It includes ophthalmology, otology, rhinology, gynecology, urology, orthopedics and neuro-surgery, as well as the usual general surgery. In spite of its conciseness, it is a very readable book, fixing the facts and correlating them with practical applications to medicine and surgery, so that it should be especially helpful to general practitioners and students.

Elgood: Medicine in Persia

MEDICINE IN PERSIA. By Cyril Elgood, M.D., M.R.C.P., Late Physician to the British Legation, Teheran, Persia. With 11 Illustrations. New York: Paul B. Hoeber, Inc. 1934. Price, \$1.50.

This is volume fourteen in a series of little handbooks published under the general title of "Clio Medica." It presents in concise and readable form the history of medicine in Persia. The author traces development of Persian medicine from its recorded inception, about 559 B.C., to its present state. He feels that to the Persian nation belongs the credit of introducing to the world a philosophic concept upon which the Greek system of anatomy, physiology and pathology were laid; and that, while the rôle of Persia has been more that of an imitator than a creator, such drugs as *nux vomica*, *rhubarb* and *senna* were introduced by them. Persian physicians left accurate descriptions of smallpox and jaundice. They kept alive the Hippocratic doctrines of disease, else these would be unknown today.

The "Clio Medica" series offers the busy physician an easy and pleasant means for

familiarizing himself with the highly interesting history of his profession. The small price of these delightful little books puts them within reach of all.

Polevski: Heart

THE HEART VISIBLE. A Clinical Study in Cardiovascular Roentgenology in Health and Disease. By J. Polevski, M.D. Attending Physician and Cardiologist, Newark Beth Israel Hospital. Philadelphia: F.A. Davis Company. 1934. Price, \$5.00.

This work deals with the x-ray study of the heart. It contains 122 reproductions of roentgenograms of the heart, covering the normal and abnormal heart shadows, the pericardium and the great vessels. Various methods of examination of the heart are described: roentgenograms, fluoroscopy, orthodiagraphy, together with an excellent discussion of the advantages of each. This work will be of special interest to cardiologists and roentgenologists.

Rawling: Head Injuries

HEAD INJURIES. By L. Bathe Rawling, M.B., B.Ch. (Cantab.), F.R.C.S. Consulting Surgeon to St. Bartholomew's Hospital and to the West End Hospital for Nervous Diseases. London: Oxford University Press. 1934. Price, \$2.75.

This work deals with skull fractures, intracranial hemorrhages and injuries of the brain, in a concise and rather dogmatic manner. The surgical procedure in depressed fracture and intracranial hemorrhage is discussed briefly. Early and late complications are listed. The entire monograph occupies only eighty-four pages, and should be useful for quick reference by the general practitioner and surgeon.

Fraser: Therapeutics

THE PRINCIPLES OF THERAPEUTICS. By Francis Richard Fraser, M.A. (Contab.), M.D. (Edin.), F.R.C.P. (Lond.) Professor of Medicine in the University of London. Baltimore: The Williams & Wilkins Company. 1934. Price, \$2.00.

In this short monograph, the author first traces the history of therapeutics from the earliest records to the present time. He then considers modern therapy under two headings: Treatment of the cause of disease, and symptomatic treatment. He concludes with a general discussion of care of the patient, in his home or in a hospital.

The book does not contain an extensive bibliography and is not what would be considered a reference work, but it contains much of interest to the general practitioner, and which he may apply with profit to his every-day practice.

Hamill: Poisoning

MURRELL'S WHAT TO DO IN CASES OF POISONING. By Philip Hamill, M.D., D.Sc., F.R.C.P. Lecturer on Pharmacology and Therapeutics, St. Bartholomew's Hospital Medical College; Senior Physician to the Metropolitan Hospital; Examiner in the University of London, etc. New York: Paul B. Hoeber, Inc. Price, \$1.50.

The author first discusses the diagnosis of poisoning, and then proceeds to a discussion of each poison. The type is large and easily read. Antidotes are printed in boldface type, to reduce searching in an emergency. The book is small and compact, and deserves a place in the bag of every practitioner.

Berkeley: Gynecology

DISEASES OF WOMEN. By Ten Teachers, Under the Direction of Comyns Berkeley, M.A., M.D., M.C. (Cantab.), F.R.C.P. (Lond.), F.R.C.S. (Eng.), M.M.S.A. (Hon.), F.C.O.G., Obstetric and Gynecological Surgeon to the Middlesex Hospital, etc., etc. Edited by Comyns Berkeley, J. S. Fairbairn and Clifford White. Baltimore: William Wood and Company. 1934. Price, \$6.00.

This work represents the combined efforts of ten prominent English gynecologists and obstetricians. The entire field of gynecology is covered in a thorough and comprehensive manner. The illustrations, especially the color plates, are excellent. It would appear to be an excellent text for the student. The anatomy and physiology of the female pelvic organs are discussed at length. Little space is devoted to surgical treatment, and the general practitioner is likely to find it lacking in this respect.

Barborka: Diet

TREATMENT BY DIET. By Clifford J. Barborka, B.S., M.S., M.D., D.Sc., F.A.C.P., Department of Medicine, Northwestern University Medical School, Chicago; Formerly Consulting Physician, The Mayo Clinic. Philadelphia: J. B. Lippincott Company. 1934. Price, \$5.00.

This book presents a concise, practical and systematic method of prescribing diets and applying treatment by diet to health and disease. The dietary needs of the normal individual are first discussed, setting forth the essential requirements of all diets. Next, the diseases in which diet is of paramount importance, such as diabetes, gout and obesity, are considered. Conditions in which the diet is of varying importance, such as cardiac disease, nephritis and hypertension, are discussed. In every case sample diets are given, which will be of great value to the busy practitioner. Standard weight charts and tables of the composition of the most commonly used foods are included.

MEDICAL NEWS



(c) Keystone-Underwood

Grand-Dad's Drug Store

THIS is the way the drug stores looked before the soda fountain and the variety shop usurped all the space but the "prescription corner." You can see, at the right, the small way in which the ubiquitous fountain began.

By the look on the lad's face the pharmacist must be measuring out tincture of asafetida or "black draught" or some other delicious beverage.

1934 Award of Ehrlich Medal

THE Ehrlich Gold Medal for the year 1934 has been awarded to Dr. Walter Kikuth, privatdocent at Düsseldorf Medical Academy and director of the chemotherapeutic institute of the I. G. Farbenindustrie, Elberfeld, Germany. The award was made in recognition of distinguished achievement in chemotherapy, directed particularly to the discovery and application of the new synthetic specifics for malaria, Plasmochin and Atabrine.

Among other notable contributions to medical science by Dr. Kikuth are important studies of carcinoma of the lungs, the experimental demonstration of the etiologic unity of Oroya fever and *verruca peruviana* (jointly with Prof. Martin Mayer), immunologic and parasitologic investigations of blackwater fever, and original researches on bartonella infections. Dr. Kikuth studied medicine at Riga and Hamburg universities,

and was subsequently associated with the Hamburg Institute of Tropical Medicine and the Oswaldo Cruz Institute in Rio de Janeiro.

Arithmetic of Government

ECONOMICS has always been considered a dreary science (if it is a science), but citizens of these United States who have no idea what the arithmetic of our domestic and foreign relations is all about are liable to get the entire populace into some tight places in the near future.

Samuel Crowther has set forth the basic facts of our present economic predicament, in language which any man or woman of intelligence can understand. He calls it "A Primer." Any interested physician (and every physician ought to be interested) can obtain one of these valuable brochures, without cost, by sending a request for it to The Chemical Foundation, Inc., 654 Madison Ave., New York City.

Civil Service Examination

The United States Civil Service Commission has announced open competitive examinations as follows:

JUNIOR MEDICAL OFFICER (INTERNE)
(St. Elizabeths Hospital)

APPLICATIONS for the position of Junior Medical Officer (interne) at St. Elizabeths Hospital, Washington, D. C., must be on file with the Manager of the Fourth U. S. Civil Service District, Washington, D. C., not later than February 18, 1935.

Applicants must have been graduated from a medical school of Class A standing with the degree of doctor of medicine.

Applications will be accepted from fourth-year students in schools which require a year of internship before granting the M.D. degree (5 years in all), as senior students to serve the interne year, and from senior students in other schools subject to their furnishing proof of graduation during the existence of the eligible register.

Full information may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city which has a post office of the first or the second class, or from the United States Civil Service Commission, Washington, D. C.

SEND FOR THIS LITERATURE

TO ASSIST doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., will gladly forward requests for such catalogs, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this journal as to reliability and adaptability for physician's use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment, or medicinal supplies. **Make use of this department. Ask for clinical samples where these are offered.**

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|-------|---|-------|---|
| D-47 | Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company. | D-761 | For the Failing Heart of Middle Life—Theocalcin. Bilhuber-Knoll Corp. |
| D-596 | The Pneumonic Lung. Its Physical Signs and Pathology. The Denver Chemical Mfg. Co. | D-766 | Incretone. G. W. Carnrick Co. |
| D-610 | Bischoff Pharmaceutical Specialities. Ernst Bischoff Co., Inc. | D-771 | Anabolin—The standardized liver principle. The Harrower Laboratory, Inc. |
| D-611 | Vera-Perles of Sandalwood Compound. The Paul Plessner Company. | D-774 | Adreno-Spermin. The Harrower Laboratory, Inc. |
| D-612 | Taurocol. The Paul Plessner Co. | D-780 | The Intravenous Injection of Hydrochloric Acid. Loeser Laboratory. |
| D-613 | Specific Urethritis—Gonosan "Riedel." Riedel & Co., Inc. | D-781 | Dysmenorrhea — Hormotone. G. W. Carnrick Co. |
| D-636 | Science's latest contribution to female sex hormone therapy — Progynon. Schering Corporation. | D-785 | Endo Liver Extract in the Treatment of Pernicious Anemia. Endo Products, Inc. |
| D-642 | Ergoapiol (Smith) and Glykeron—(for sample, send narcotic registry number). Martin H. Smith Co. | D-787 | Gastric Mucin (Stearns) treatment of Peptic Ulcer literature containing tasty recipes sent to physicians. Frederick Stearns & Co. |
| D-669 | The Illinois Post Graduate Medical School Bulletin. The Illinois Post Graduate Medical School, Inc. | D-792 | The Last Three Months. William R. Warner & Company, Inc. |
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